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# Micro-finance Impact Assessment and Methodology: Evidence from a Christian Development Programme in Honduras

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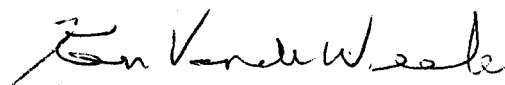
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A handwritten signature in black ink, appearing to read "Ken VanderWeele". The signature is fluid and cursive, with the first name "Ken" being more prominent and the last name "VanderWeele" written in a continuous script.

Ken VanderWeele

## Abstract

A field survey of micro-enterprises was designed and analyzed to assess the impact and social costs and benefits of micro-credit programmes. The survey was administered to a group of the smallest and youngest Honduran micro-enterprises provided loans by a Christian micro-finance organisation, the Institute for Honduran Development (IDH). The survey was also administered to a control group of micro-enterprises which did not receive loans but with similar characteristics to those that did. The use of a control group circumvents several difficult impediments encountered in rigorous impact assessment research and in social cost benefit analysis. The approach employed in this research thereby constitutes a methodological advance in this field. The research does not distinguish between lending and non-lending support services provided by IDH. Statistical techniques are used to analyze the data and the combined provision of lending and non-lending assistance is found to significantly increase income. Social cost benefit analysis demonstrates that the benefits far exceeded the costs of administering the programme. The results suggest that micro-credit assistance to the smallest and youngest micro-enterprises can be an effective way of increasing incomes and reducing poverty.



## Acknowledgments

I especially wish to acknowledge the support and encouragement of my family as I undertook this research on a part-time basis over an extended period and used many of our summer family holidays in this pursuit. My wife Linda has been a continual source of strength and perseverance. Also, my son Tyler has made a substantial contribution by reviewing and commenting on all of the statistical work.

I also wish to acknowledge the continual support and encouragement provided by the faculty, staff and students of OCMS. In particular, Professor Deryke Belshaw has been a patient and wise advisor and he has become a wonderful mentor and friend. Without his encouragement, I would have likely discontinued the research years ago.

Although most of their assistance was provided at the start of the project, I also wish to acknowledge the staff and clients of IDH in Honduras. Their commitment and hard work has been a source of continual inspiration.

Any remaining inaccuracies or errors are fully my responsibility.

## Table of Contents

Abstract  
Acknowledgments  
Table of Contents  
List of Tables  
List of Figures  
List of Acronyms

### Chapter One: Introduction

1.1 Growth and Development of Micro-finance  
1.2 Aims and Relevance of the Study  
1.3 Organisation of Thesis

### Chapter Two: Review of Relevant Literature

2.1 Micro-enterprises and the Informal Sector  
    2.1.1 Definitions  
    2.1.2 Development of Perceptions  
2.2 Micro-enterprises and Economic Development  
    2.2.1 General Development Models  
    2.2.2 Poverty Assessment Models  
    2.2.3 Entrepreneurial Models  
    2.2.4 Firm Size and Age Models  
2.3 Assistance to the Micro-enterprises and the Informal Sector  
    2.3.1 Classification of Assistance  
    2.3.2 Minimalist Approach  
    2.3.3 Holistic Christian Approach  
2.4 Christian Motivation for Micro-enterprise Assistance

### Chapter Three: Review of Micro-enterprise Impact Measurement Research

3.1 Overview  
3.2 Issues and Problems  
    3.2.1 Selecting Dependant Variables to Measure Impact  
    3.2.2 Data Gathering and Data Accuracy  
    3.2.3 Attribution and Control Groups  
    3.2.4 Limited Time Sequences  
    3.2.5 Other Measurement Problems  
3.3 Social Cost Benefit Analysis  
3.4 Poverty Reduction

## Chapter Four: Honduran Economy and IDH

- 4.1 General Economic Situation
- 4.2 Informal Economy and Micro-enterprise Sector
- 4.3 Profile of IDH

## Chapter Five: Research Methodology and Descriptive Information

- 5.1 Research Methodology
  - 5.1.1 Smallest and Youngest
  - 5.1.2 Survey Document
  - 5.1.3 IDH Client Selection
  - 5.1.4 Survey Procedures and Control Group Selection
- 5.2 Personal Descriptive Information
  - 5.2.1 Income
  - 5.2.2 Age
  - 5.2.3 Education
  - 5.2.4 Experience
  - 5.2.5 Gender
  - 5.2.6 Religion
- 5.3 Enterprise Descriptive Information
  - 5.3.1 Location
  - 5.3.2 Industry Type
  - 5.3.3 Employees
  - 5.3.4 Sources of Initial Capital
  - 5.3.5 Business Closure
  - 5.3.6 Competition, Problems, and Barriers to Growth
- 5.4 Comments on Missing IDH Clients
- 5.5 Comments on Micro-enterprise Graduation

## Chapter Six: Results of Impact Analysis

- 6.1 Analytical Technique
- 6.2 Revenue, Income, and Income Growth
- 6.3 Productivity
- 6.4 Employment and Employment Creation
- 6.5 Poverty Reduction
- 6.6 Summary of Results
- 6.7 Critique of Methodology

## Chapter Seven: Results of Multiple Linear Regression Analysis

- 7.1 Analytical Technique
- 7.2 Personal Variables
- 7.3 Enterprise Variables
- 7.4 Summary of Results
- 7.5 Critique of Methodology

## Chapter Eight: Results of Social Cost Benefit Analysis

### 8.1 Replication and Expansion of Kilby Model

### 8.2 Measuring Benefits

### 8.3 Use of Control Groups

### 8.4 Measuring Costs

### 8.5 Summary of Results

### 8.6 Critique of Methodology

## Chapter Nine: Summary and Conclusions

### 9.1 Impact of IDH Loans

### 9.2 Personal and Enterprise Variables

### 9.3 Remarks on Research Methodology

### 9.4 Further Research Issues

## References

## Annexes

### I. Survey Document

### II. Statistical Analyses- t-tests of differences in group means and group proportions

### III. Statistical Analyses- Multiple Linear Regression Analyses

## **List of Tables**

- 2.1 Government Classifications of the Smallest Enterprises
- 2.2 Researchers Classifications of the Smallest Enterprises
- 3.1 Range of Total Benefits USAID Five Country Study, 1982-1983
- 3.2 Benefit Components as a Proportion of Total Costs
- 4.1 Estimated Extent of Poverty and Absolute Poverty in Honduras in 1976
- 4.2 IDH Individual Loan Portfolio from 1987 to 1991
- 4.3 IDH Training Courses, Participants, and Clients Visits from 1983 to 1991
- 4.4 IDH Operations Summary from 1989 to 1991
- 5.1 Religious Distribution
- 5.2 Industry Distribution
- 6.1 Increase in Mean Monthly Income
- 6.2 Mean Adjusted Monthly Net Income
- 6.3 Mean Increase in Real Monthly Income
- 6.4 Mean Return Per Hour of Family Labour
- 6.5 Change in Mean Number of Paid Employees
- 7.1 Dummy Variables Used in Multiple Linear Regression Analysis
- 7.2 Multiple Linear Regression analysis 't' statistics
- 8.1 Range of Estimated Economic Benefits-IDH Clients
- 8.2 Administrative Costs for IDH Loans Disbursed in 1989 and 1990
- 8.3 IDH Bad Debt Costs
- 8.4 IDH Capital Erosion Costs, 1989 to 1992
- 8.5 Comparison of IDH Cost Components, 1977 to 1982 and 1989 to 1992
- 8.6 Summary of IDH Cost Benefit Ratios, 1989 to 1992
- 8.7 Comparison of IDH Cost Benefit Ratios with and without a Control Group
- 8.8 Comparison of IDH Cost Benefit Ratios
- 8.9 Comparison of IDH Client Profiles, 1977 to 1992
- 8.10 Comparison of IDH Average Administrative Costs, 1977-1992

## **List of Figures**

3.1 Hulme and Mosley (1996)- The Relationship of Average Borrower Income to Average Increase in Household Income Since Last Loan

6.1 The Relationship Between Borrower Income and Increase in Household Income for IDH Clients in the Survey

## List of Acronyms

AIMS - Assessing the Impact of Micro-enterprise Services  
CGAP - Consultative Group to Assist the Poorest  
DDF-M - Dominican Development Foundation Micro-enterprise  
DDF-S - Dominican Development Foundation Solidarity  
DFID - Department for International Development  
EDI - Enterprise Development International  
FDR - Rural Development Fund  
GDP - Gross Domestic Product  
GNP - Gross National Product  
IDH - Institute for Honduran Development  
IFAD - International Fund for Agriculture Development  
IIDI - Institute for International Development Incorporated  
ILO - International Labour Organisation  
IMF - International Monetary Fund  
LDC - Least Developed Country  
MFI Micro-Finance Institution  
NGO - Non-Governmental Organisation  
OI - Opportunity International Network  
OPEC - Organisation of Petroleum Exporting Countries  
PPF - Partnership for Productivity  
UNDP - United Nations Development Program  
UNO - Northeast Union of Assistance to Small Business  
USAID - United States Agency for International Development

## INTRODUCTION

### 1.1 Growth and Development of Micro-finance

Since the early 1970s, there has been increased interest amongst development practitioners and academics in the role of micro and small enterprises in developing countries. New financial institutions have been created to provide financial services to these micro and small-scale enterprises. These new specialised financial institutions have generated interest due to the failure of commercial banks and public credit institutions to effectively serve small-scale clients.

Surveys in several countries discovered an unexpectedly large informal economy and a significant proportion of the workforce working in small and micro-enterprises (Fisseha and McPherson 1991, Grant 1991, Mead, Fisseha and McPherson 1991). Although there does not seem to be a commonly accepted definition of small enterprise, most of the literature classifies an enterprise as small if it has less than either 25 or 50



employees (Nqwire 1995, Webster 1991).<sup>1</sup> Within the small enterprise sector, there is a micro-enterprise sub-sector of firms with five or less employees. In most developing countries, micro-enterprises are not legally registered and they operate in the informal economy.

As discussed in Section 2.1.2, nation-wide surveys from a number of developing countries indicate a high proportion of micro-enterprises. In most countries, 90 percent of the enterprises have less than five employees and 75 percent have no more than one employee in addition to the proprietor. Information on productivity and returns by size from several developing countries (Liedholm and Mead 1987) indicate that the reason that one or two person firms stay small is not because they are satisfied with profit levels. Research indicates that the average net return per hour of the proprietor's labour in one and two person enterprises is less than the unskilled shadow wage and between 10 percent and 50 percent of the average return on the proprietor's labour for firms with three to five employees (Liedholm and Mead 1987). Since returns appear to vary directly with number of employees, owners of one and two person firms are the poorest group in the small enterprise sector.

There is research in both industrialised and developing countries which shows that business failure rates vary inversely with firm size (Biggs 1986,

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<sup>1</sup> The number of employees is the most common indicator of size used in enterprise classification schemes (Nqwire 1995).

Evans 1987a, Evans 1987b, Hymer and Pashigian 1962). There are other research models which show that firm age is also a significant variable in enterprise survival or failure (Bates 1990, Evans 1987a, Evans 1987b, Mansfield 1962). If firm size is held constant, these models predict that younger firms have higher failure rates. These firm age models are primarily based on research from industrialised countries and there is no comparable body of empirical research from developing countries.

There is also evidence from both industrialised and developing countries that formal financial institutions avoid dealing with the smallest firms because of the higher risks, higher costs and lesser potential growth (Anderson 1982, Little 1987, Schmitz 1982, Strassman 1987).

Prior to research on the urban informal sector which was published by the International Labour Organisation (ILO) in the early and middle 1970s (ILO 1972, Sethuraman 1976, Souza , Tokman 1976, Weeks 1975), most development economists ignored the micro-enterprise sector because they did not believe it had any potential to contribute to economic growth. Micro-enterprises were viewed as income generating survival activities and as transitional employment vehicles until “real jobs” could be found. The very existence of an informal sector was viewed as evidence of economic inefficiency and underdevelopment (DeSoto 1989, Little 1982, Todaro 1969). Some economists viewed the growth of the informal sector as part

of the urbanisation trend from rural areas (Beinefeld and Godfrey 1975, Bromley 1978, Todaro 1969). The new urban migrants often worked in micro-enterprises in the informal sector until they could find wage jobs in the formal economy. A United States Agency for International Development (USAID) paper summarising research issues (Liedholm and Mead 1991:2) indicated that many economists

...have argued that micro-enterprises are a residual, made up of low productivity activities that are destined to fade away as national income increases. For those espousing this point of view, efforts to promote micro-enterprises can be at best fruitless, and at worst a serious waste of resources.

These negative views on the micro-enterprise sector are based on their perceived lack of potential to contribute to economic growth or efficiency.

However, during the 1970s, many development organisations began to experiment with programmes to assist micro-enterprises in developing countries. These programmes were justified based on arguments in favour of equity and employment creation. These direct assistance programmes usually combined loans and training. Assistance was often targeted at specific groups of disadvantaged beneficiaries such as unemployed youth. Services were normally subsidised on the presumption that clients could not afford the costs. These assistance programmes often targeted micro-enterprises in a limited geographic area having a high incidence of poverty. An analysis of some of these early experimental programmes led observers to conclude that micro-enterprises had a high demand for credit at market

interest rates and that they had amazingly low loan default rates (Berger 1989, Meyer 1989, Remenyi 1991). Efforts to lower transaction costs and collateral requirements led to widespread experimentation with group credit schemes based on solidarity guarantee arrangements. The group guarantee replaced traditional collateral as group peer pressure was alleged to be very effective in ensuring high repayment rates. Under group loan schemes, transaction costs of the lender are lower because of the screening, monitoring and collection activities done by the groups themselves. Several non-governmental organisations (NGOs) which were successful in providing credit to micro-enterprises began to undertake large-scale national expansion. The Grameen Bank in Bangladesh and Accion in Latin America began to attract significant donor interest and media attention as they undertook rapid expansion using group solidarity guarantee systems mainly targeted at poor women in villages and urban areas.

By the middle 1980s, many NGOs, bilateral donors and multilateral institutions were experimenting with programmes to assist micro-enterprises in developing countries. Early proponents of interventions to assist micro-enterprises argued that such assistance contributed to development by increasing income levels, generating employment, improving income distribution and psychologically empowering poor people. Empowerment was viewed as increased self esteem resulting from the

discipline of loan repayment and confidence gained from successful self employment. This process of empowerment was most evident in programmes targeted at women and minority groups (Berger 1989, McKee 1989) who have historically faced discrimination and a lack of opportunities.

During the late 1980s and early 1990s, several micro-credit providers grew into financially profitable financial institutions whose primary activity was to provide credit and other financial services to poor micro-entrepreneurs. The most visible of these organisations were Grameen Bank in Bangladesh, Banco Sol in Bolivia, Ademi Bank in the Dominican Republic and BRI in Indonesia. By 1990, Banco Sol and Ademi had more than 50,000 active clients and Grameen Bank and BRI were both approaching one million clients. By the early 1990s, micro-enterprise development institutions began to be viewed as a specialized “industry” and donors and practitioners started using the term “micro-finance” to describe the increasing array of financial services being provided to poor micro-entrepreneurs. Organisations which provide credit and other financial services to micro-enterprises began to be called micro-finance institutions (MFIs) regardless of their legal registrations as banks, finance companies, co-operatives, NGOs or other types of legal entities (Rhyne and Otero 1991).

Throughout the 1990s, micro-finance ‘best practices’ have been focused on issues of scale and sustainability. Scale involves outreach to large numbers of clients. Sustainability is viewed as synonymous with profitability. Financial sustainability is defined as charging clients interest and fees which are high enough to cover all costs including loan losses, cost of capital and inflation. The pressure to develop financially sustainable micro-finance institutions has led to increased efficiencies and increased use of group lending to lower unit costs. However, it has also led to the reduction of non-financial services being provided to micro-entrepreneurs as MFIs have had to focus mostly on credit to be financially sustainable. This credit only approach to micro-enterprise development has been called “minimalist” (Malhotra 1992, Rhyne and Otero 1991). A minimalist approach can be characterised as lending small amounts of working capital to existing micro-enterprises (Martinez 1990). As discussed in Section 2.3.2, a minimalist approach usually involves excluding loans to new enterprises deemed more risky and expensive to serve.

The number of MFIs has grown rapidly throughout the 1990’s as donors and practitioners have extended the borders of micro-finance beyond developing countries. The World Bank’s CGAP (Consultative Group to Assist the Poorest) Micro-finance group (World Bank 1999) estimated that there were between 3,000 and 5,000 MFIs in operation at the end of 1999. However, these MFIs only serve a total of about fifteen to twenty

million clients, which is about three or four percent of the 500 million micro-enterprises in the world (Results International 1997). New MFIs have been started in Communist China and Vietnam, all post-communist countries of Eastern Europe and the former Soviet Union and poor areas of industrialised countries in Western Europe and North America. Micro-finance initiatives have also been created to help countries recover from destructive events such as natural disasters and civil wars.

In 1997, the NGO Results International initiated a global micro-credit movement by organising the Micro-Credit Summit. The Micro-Credit Summit brought together practitioners, donors, government officials, business leaders and academics in an effort to unite people around the goal of reaching 100 million of the world's poorest families with micro-loans by 2005. This goal requires dramatic growth as the estimated number of people with micro-loans in 1999 was only about fifteen to twenty million (World Bank 1999). Since the global Micro-Credit Summit kick-off event in 1997, Results International has organised annual regional events which continue to generate publicity and awareness for the micro-credit movement.

A number of thoughtful development practitioners, economists and academics have raised concerns about micro-finance as a development tool. Rogaly (1996) labeled the focus on scale and sustainability as

‘micro-finance evangelism’ and he questioned the ability of these loans to really help poor people. His views were based on a review of various programme assessments which indicated that:

.....if agencies are serious about using the genuine advances in the design of financial services in reducing poverty, they must be more modest in their ambitions. While financial sustainability of service providers is an important means, it should not be seen as an end in itself. When this happens, there is an excessive focus on scale, which increases the danger that institutions become increasingly self-serving. Further, there is less incentive for donors to examine specific design features or impact on beneficiaries (Rogaly 1996:110).

He concludes that “micro-finance cannot be assumed to reduce poverty because it achieves a high level of outreach or almost perfect repayment rates” (Rogaly 1996:110). In addition to Rogaly, there are other critics who question the blind devotion to scale and sustainability promoted by micro-finance best practices (Copestake 1995, Montgomery 1995).

Montgomery (1995) is particularly concerned with the social cost of peer group pressure which can erode mutual trust and increase the likelihood of excluding the poorest people. Copestake (1995:264) doubts whether we can “be sure that improved access to self sustainable financial services will always and automatically result in poverty reduction”.

Is micro-finance just another development fad that is destined to fade away when it becomes clear that micro-loans do not really help poor people? The answer may be approached by using traditional economic tools of assessment and social cost benefit analysis. These tools could



help to determine whether borrowers are increasing their incomes and well being as a result of micro-finance. However, in reviewing the literature over the last 30 years, there is a surprising absence of impact assessment and social cost benefit analysis being applied to micro-finance. USAID, the largest bilateral donor to micro-finance programmes, published research priorities in 1990 for its new Gemini micro-finance project and noted that:

...at this point in the micro-enterprise field there is no agreed upon approach to impact evaluation or even monitoring. The premise that assistance to micro-entrepreneurs is a good way to spend development dollars needs to be tested (Liedholm and Mead 1991:4).

James Boomgard, the Director of the Gemini Research project for USAID from 1990 to 1994, viewed the micro-enterprise development field as being in a “development impact crisis” (Boomgard 1991). This view was based on the poor quality of impact assessment he had observed and reviewed. “When you combine bad answers and bad questions, the odds of getting anything good are Lilliputian” (Boomgard 1991:3). He also discussed the obstacles to accurate data collection from micro-enterprises and the lack of impact evaluation models and tools. In this regard he stated “that it is difficult to perform microsurgery with a chain saw” (Boomgard 1991:3).

Many of the references to impact assessment within the micro-finance literature focus on measurement problems and obstacles. These issues are summarised in Section 3.2. As a result of these problems, many

practitioners and donors have argued that rigorous impact assessment is irrelevant and the costs of impact assessment cannot be justified. This view is often set forth by proponents of minimalist micro-finance. They use a market demand oriented argument to claim that micro-finance must be having a positive impact because poor clients will only take loans at prevailing interest rates being offered if, on balance, they can earn a rate of return in excess of the cost of capital (Rogaly 1996). Therefore, the loans must be having a positive impact or there would not be demand for them. Under this minimalist view, the key issues are outreach to the largest number of clients to maximise total impact and the financial sustainability of the micro-finance institution.

Arguments to support the impracticality of impact assessment are summarised by Marsell-Carstens (1995). She argues that impact assessment is generally not useful for the following reasons:

- \* Respondents may be interested in giving false information if loans have been used for a purpose other than the stipulated one;
- \* establishing a causal relationship to the actual loans in question involves knowledge of all the beneficiaries' sources and uses of funds; and

\* it is difficult to establish what would have happened if the loan had not been made.

However, Rogaly (1996:103) is critical that “traditional impact assessment, which measures changes in incomes or well being has become discredited within micro-finance”. He questions continued investment in micro-finance unless there is clear evidence of poverty reduction and development.

This study assesses the practice of impact assessment within the micro-finance field. It examines whether rigorous impact assessment using social cost benefit analysis and other statistical tools can lead to the discovery of important information about how micro-loans affect poor people and whether micro-finance can help to reduce poverty. As discussed in Section 1.2, this study also attempts to contribute new information about the impact of micro-finance programmes and new methodological approaches to the practice of impact assessment within micro-finance.

## 1.2 Aims and Relevance of the Study

Credit programmes to assist micro-enterprises are often classified as being involved in either enterprise formation, enterprise expansion, or enterprise graduation (Lieberson 1989, Martinez 1990). Most successful MFIs have focused on credit for enterprise expansion. The market for enterprise expansion loans permits outreach to a large<sup>2</sup> number of clients via short-term loans primarily used for working capital. The focus on enterprise expansion loans has become a micro-finance industry best practice because it is perceived as the best way to build a financially sustainable MFI. Enterprise expansion loans minimise risk and maximise profitability for the lender. This has been termed the minimalist approach to micro-finance (Rhyne and Otero 1991).

Most MFIs perceive loans for enterprise formation as risky and costly. As a result, many MFIs simply do not make any loans for enterprise formation. However, people who need loans to start a business are usually poorer than those who already have an existing micro-enterprise (Lassen 1991).

There is little specific research within the micro-enterprise literature on the growth and dynamics of the smallest and youngest micro-enterprises. This study aims to develop an understanding of the direct impact of enterprise

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<sup>2</sup> The Micro Banking Bulletin (World Bank 2001) defines a Latin American MFI as large if it has a loan portfolio of more than \$10 million outstanding to more than 20,000 clients.

formation loans provided to such enterprises. This is done by examining the direct impact of individual enterprise formation loans made by IDH in Honduras from 1989 to 1992. Published micro-enterprise research which specifically examines micro-enterprise formation loans has not been identified to date (2002).

*Instituto de Desenvolvimento Humano* (IDH) in Honduras was selected for this field research because it made a variety of enterprise expansion, enterprise formation, and enterprise graduation loans in the late 1980s. IDH made individual loans to people who were starting new micro-enterprises which is the intended focus of this study. Micro-finance organisations who were using a minimalist approach did not generally make individual enterprise formation loans. IDH has been a pioneering micro-finance institution since it started in 1979. It is part of the Opportunity International Network of micro-finance institutions with which the researcher has had a long-standing relationship. IDH was willing to devote the time and effort needed to gather information for this study. It had worked with other researchers in the past (Kilby 1985, Reed and Befus 1992) and was willing to cooperate on this study. Honduras was also selected because it has a large number of micro-enterprises operating in a dynamic informal economy as discussed in Section 4.2. Section 4.2 contains comments regarding the applicability of the Honduran context to other developing countries.

There is little empirical evidence available regarding the impact of micro-credit because of the difficulty in proving whether economic results such as growth or employment creation are directly attributable to the utilisation of loan capital. These attribution difficulties are evident in the questions about causality in impact assessment raised by Marsell-Carstens (1995). Since these concerns about causality exist in most *ex-post facto* field research in the social sciences, control group methods have been built into research designs (Kratwohl 1977). However, within micro-enterprise research, much of the literature discusses the problems and obstacles encountered in using control groups. These obstacles are discussed in Section 3.2. Many impact assessment studies do not include control groups because of the perceived high cost of gathering control group information (Harper and Finnegan 1998).

In this study, a matching control group was developed using a relatively simple and inexpensive door to door canvass of the neighbourhood in which each IDH client was located. The procedures used in identifying and selecting this matching control group are described in Section 5.1.4. These procedures aimed to ensure a control group comprised of the smallest and youngest micro-enterprises which were similar to the IDH research subjects. However, since control group members had never received credit from a formal institution, the provision of credit by IDH is the primary

difference between the two groups. A constructed matching control group selected via a door to door canvass is proposed as a methodological contribution towards advancing the validity of micro-enterprise impact research.

Various statistical tests were done with the survey data from the IDH clients and the control group. Initially, these tests consisted primarily of t tests of differences in group means and differences in group proportions. These t tests aimed to test hypotheses about whether the enterprise formation loans provided by IDH had a statistically significant impact in the growth of the micro-enterprises analysed. The indicators tested in this manner included mean value added, employment creation, and productivity. Productivity was defined as the average return per hour of family labour and was tested by replicating a model of productivity measurement previously used by Liedholm and Mead (1987). Hulme and Mosley (1996) discuss the impact of loans in reducing poverty by developing an impact possibility frontier model and a poverty gap model. These models are applied to the IDH data gathered in this study to analyze whether the IDH enterprise formation loans contributed to a reduction in poverty in Section 6.5.

Although the research design provided that the IDH subjects and control group were similarly the smallest and youngest micro-enterprises, it did

not attempt to control for differences in personal or enterprise variables. This study aimed to apply multiple regression analysis to fourteen pre-defined variables to determine if any were more significant than an enterprise formation loan in explaining differences in enterprise performance or if any confounded the relationship between value-added and the loan from IDH. It is possible that some of these independent variables such as age, gender, religion, formal education, previous experience, and type of business could have been more significant than the enterprise formation loan by IDH in explaining differences in enterprise results. Micro-enterprise research has seldom tested these kinds of personal variables.

While the primary aim of this study was to research whether micro-enterprise formation loans had a direct impact in enterprise growth or poverty reduction, it is worthwhile to ask whether the costs incurred justified the impacts observed. The economic development literature includes a well developed analytical framework called social cost benefit analysis which provides tools to evaluate whether -and on what assumptions- the benefits to a country from a specific project justify the costs incurred. Empirical research on the impact of micro-finance has used certain aspects of the theory of social cost benefit analysis. However, many micro-enterprise researchers have commented that measurement problems prevented them from applying various aspects of social cost



benefit analysis. Within micro-enterprise research, it seems that Peter Kilby (1985) is one of the few who have attempted a comprehensive application of social cost benefit analysis in assessing the impact of micro-credit. As summarised in Section 3.3, Kilby applied social cost benefit analysis in studying the impact of loans made by six micro-finance institutions (including IDH) from data available in the early 1980's. Kilby carefully explains various conventions and assumptions he had to make and he suggests alternative approaches. Although Kilby comments on the general desirability of using a control group, he was not able to obtain control group data in his research.

This study aims to apply social cost benefit analysis in studying the impact of the IDH enterprise formation loans by replicating the research done by Kilby (1985). There does not appear to be any prior research applying social cost benefit analysis specifically to the impact of micro-enterprise formation loans. In replicating Kilby's approach, similar conventions and assumptions were applied where possible. However, this research also aims to expand upon Kilby's methodology (1985) by using the matching control group data.

Finally, since Kilby's study included IDH in the early 1980s, it is possible to compare his results with the data generated from this research in the early 1990s. This comparison leads to various observations about how changes

in the strategy and goals of IDH affected its impact and social cost benefit ratios over the intervening decade. This study provided an opportunity to do a longitudinal comparison for IDH from data at two points in time which were about ten years apart. This type of comparison has seldom been possible in micro-finance research due to the relative youth of the micro-finance 'industry' and the small volume of published empirical impact research studies. -

### 1.3 Organisation of the Thesis

Chapter One begins with an introduction to the growth and development of the micro-finance industry during the 1980s and 1990s. The perceived importance of micro-enterprises and the informal economy as a factor in economic development grew throughout the 1980s as census data revealed the large numbers of people working within the micro-enterprise sector of developing countries. Programmes and organisations created to provide loans to micro-enterprise have been growing as donor investment has increased. Micro-finance institutions tend to focus on scale and sustainability as a minimalist approach to micro-credit gained pre-eminence in the 1990s. A minimalist approach to micro-finance has led to 'industry-

best practices' which emphasize expansion loans to existing micro-enterprises because they are deemed to be the least risky and most profitable. One consequence is that micro-finance institutions have tended to exclude loans for micro-enterprise formation which are thought to be more risky and expensive to service. As a result, some of the poorest people who need credit to start self-employment are prevented from accessing micro-loans. Also, the minimalist approach to micro-finance does not encourage direct impact research at the micro-enterprise level. There is a widespread view that loans are helping poor people or they would not continue to demand them. Also, since it is hard to prove the direct impact of micro-loans due to measurement problems, direct impact research cannot be cost justified. As a result of these views, micro-finance research in the 1990s has tended to focus on micro-finance institutions and techniques employed to increase scale and sustainability, rather than on the development impacts of credit provided to micro-enterprise clients.

The second part of Chapter One summarises the aims and relevance of this study. The primary aim is to study the direct impact of enterprise formation loans made to the smallest and youngest micro-enterprises. This study aims also to contribute new tools and methodology to micro-enterprise impact research by introducing a matching control group, applying multiple regression analysis to the study of personal and

enterprise variables and by expanding the application of social cost benefit analysis within micro-enterprise impact research.

Chapter Two contains a review of relevant theoretical literature. This begins with a review of the various efforts to define micro-enterprises and the informal sector. There are disagreements between various writers and there does not appear to be a set of commonly accepted definitions and terminology. This section provides certain definitions and classifications used in the remainder of the thesis. Based on these definitions, the significance, changing perceptions, and justification for micro-enterprises in various developing countries is then documented. Survey data from the 1980s led economists to conclude that micro-enterprises were more significant and involved more people than was previously believed. However, many poor people seem trapped in the informal sector and they cannot graduate to formal sector enterprises or formal sector wage paying jobs. The informal sector is generally the poorest level of the economy in terms of income and productivity. Can assistance to micro-enterprises lead to economic growth and development?

Section 2.2 addresses this question by attempting to build a better understanding of the micro-enterprise sector through the review of theoretical literature which covers various models and theories of economic development. This includes several general models of economic

development, poverty assessment models, and models of entrepreneurship. These theoretical models help to develop a better understanding of both the potential benefits and limitations facing attempts to provide assistance to the micro-enterprise sector. Since this study is specifically concerned with people who are forming new micro-enterprises, Section 2.2 closes by reviewing literature concerning the smallest and youngest firms. Although much of this research is from industrialised countries, it is also applicable in developing a better understanding of the enterprise formation process within the micro-enterprise sector of developing countries.

This leads to the third section of Chapter Two which reviews the literature of the last 30 years on assistance provided to micro-enterprises. This section reviews the historical development of such assistance and the various classification schemes being used. This section reviews how a minimalist approach to micro-finance has come to dominate the industry in the 1990s. In contrast to the minimalist approach, also discussed are holistic Christian approaches to micro-enterprise assistance. The fourth section of Chapter 2 presents the Christian and Biblical motivation for such a holistic approach.

Chapter Three reviews empirical research on the impact of assistance provided to micro-enterprises. This starts with an overview of impact

assessment issues within the micro-finance industry. The second section of Chapter Three reviews the various issues and problems hindering the progress of impact assessment within micro-finance. Much of the literature on impact assessment appears to focus on these problems and explaining why practitioners have chosen not to conduct rigorous impact assessments or why impact assessments which have been conducted were viewed as not very useful.

The third section of Chapter Three reviews the application of social cost benefit analysis to micro-enterprise impact research. This reviews and appraises the research methodology used by Peter Kilby (1985).

The fourth section of Chapter Three reviews literature on the impact of assistance to micro-enterprise in reducing poverty. Section 3.4 analyses a major cross-country research project conducted by Hulme and Mosley (1996). This section also explains the impact possibility frontier and poverty gap models developed by Hulme and Mosley; these models are applied to the IDH data in this study as discussed in Chapters Six and Eight.

Since the field research was conducted in Honduras, Chapter Four summarises the contextual situation. This includes the general macro-economic situation in Honduras during the late 1980s and early 1990s, the conditions present in the micro-enterprise sector based on the work of

other researchers, and the situation at IDH. The profile of IDH was developed by reviewing source documents, interviews and direct on-site observation.

Chapter Five describes the research methodology used and the descriptive information collected from the research subjects selected. The first section of Chapter Five provides a detailed discussion of the research design and procedures employed to obtain a matching control group. The second and third sections of Chapter Five review personal and enterprise descriptive information obtained from the field surveys of IDH clients and the matching control group. Chapter Five concludes with comments and observations about missing IDH clients and micro-enterprise graduation into small scale firms in the formal sector.

Chapters Six, Seven and Eight explain the results of the various statistical tests employed. Chapter Six summarises the results of statistical analyses regarding the direct impact of micro-enterprise formation loans provided by IDH. This is primarily based on t tests of differences in group means and differences in group proportions between IDH clients and the matching control group. The first section explains the research design and the statistical tests employed. The remaining sections of Chapter Six summarise statistical results in the following areas:

## 6.2 Revenue, income and income growth

### 6.3 Productivity

### 6.4 Employment and employment creation

### 6.5 Poverty reduction

It should be noted that productivity (Section 6.3) was measured using the average return per hour of family labour. This was derived by replicating previous research conducted by Liedholm and Mead (1987) in several developing countries including Honduras. Poverty reduction measurements (Section 6.5) were estimated using the poverty gap and impact possibility frontier introduced by Hulme and Mosley (1996).

Although Chapter Six concludes that enterprise formation loans from IDH were positively associated with increases in value added and productivity, it is not clear whether other personal or enterprise variables might have been as significant or more significant than the IDH loan in explaining these differences in enterprise performance or whether these other variables might have confounded the relationship between enterprise performance and the IDH loan. Chapter Seven summarises attempts to test for these other independent variables using multiple linear regression analysis. The first section of Chapter Seven discusses the analytical techniques employed. This included the examination of seven personal variables and four enterprise variables. The remainder of Chapter Seven discusses results obtained from the multiple linear regression analyses and the limitations of



these results. In general, it appears that there were two variables significant in explaining differences in economic performance. First, an IDH loan was positively associated with economic performance confirming the results of Chapter Six. The other significant variable was whether the proprietor had previously owned a business. This variable was negatively correlated with economic performance. Chapter Seven concludes with comments on the problem of testing causality in micro-enterprise field research.

Chapter Eight provides a detailed explanation of procedures used and results obtained in applying social cost benefit analysis to the enterprise formation loans made by IDH. This was done by replicating the procedures, conventions and assumptions used by Peter Kilby (1985). The research done by Kilby is the only comprehensive application of social cost benefit analysis in the measurement of micro-finance impact. Chapter Eight explains how this study extends the work of Kilby by applying control group information which was not possible during Kilby's research. The use of control group data provides significantly different and more accurate results than would have been achieved if only the IDH research subjects had been examined. This supports the conclusion that control group information is essential to the effective use of social cost benefit analysis in micro-finance impact research. Chapter Eight concludes with a critique of the methodology used.

Chapter Nine provides the final summary and conclusions. The first two sections of Chapter Nine summarise conclusions with respect to the direct impact of IDH enterprise formation loans and to the role of personal and enterprise variables. The third section of Chapter Nine provides concluding remarks on the research methodology and the research tools used in this study and the fourth section summarises future research issues and priorities. Further research priorities include several policy initiatives, including the need for the micro-finance ‘industry’ to allocate funds to undertake more impact assessment as a critical tool in developing a better understanding of client needs and how micro-finance can help to reduce poverty. Also, further research and debate is needed to develop an agreed set of micro-finance impact assessment best practices and to consider the need for independent parties to review and audit impact assessments.

## CHAPTER TWO

### REVIEW OF RELEVANT LITERATURE

#### 2.1 Micro-enterprises and the Informal Sector

##### 2.1.1 Definitions

Over the past thirty years, there has been significant research and discussion on the role of micro-enterprises and the informal sector in developing countries. According to Nubler (1996:4), there is no “agreed definition of the so-called ‘informal sector’.” As discussed in Section 2.1.2, Liedholm and Mead and their associates at Michigan State University conducted extensive surveys of small and micro-enterprises in many developing countries. In providing a summary of this research, they indicate that “there is no commonly accepted definition of what constitutes a micro or small enterprise” (Liedholm and Mead 1987: 2). They indicate that a review of research conducted in 75 countries revealed at least 50 different definitions (Liedholm and Mead 1987).

This section provides an overview of the issues in defining micro-enterprises and the informal sector. Nqwire (1995) points out that the concept of the 'informal sector' is essentially a designation of the legal status of the enterprises making it up. It is commonly assumed that all enterprises in the informal sector are not legally registered and do not pay any income tax. However, Nqwire (1995) points out that the situation is not so clear and simple as this common assumption. There are many forms and variations of legal registration and tax payments and informal sector enterprises may be affected by some of these. The degree to which informal sector firms are effected by legal registration and tax issues varies significantly between countries and between areas within a country, especially between urban and rural areas. DeSoto (1989) also views the informal sector as basically a legal concept and he documents the many disadvantages and vulnerabilities facing those forced to work in the informal sector.

Schmitz (1982) defined the informal sector according to the typical characteristics of the enterprises operating within it. He views the informal sector as being:

...characterized by ease of entry, reliance on indigenous resources, family ownership, small scale of operations, labour-intensive and adapted technology, skills acquired outside the formal school system, and unregulated and competitive markets (Schmitz 1982:430).

He describes the informal sector based on the internal and external constraints facing firms operating within it. Referring to the work of Kilby

(1971), he views internal constraints as key elements lacking within the enterprise owner, including (1) lack of motivation and drive, (2) lack of organisational skills, and (3) lack of technical skills. With regard to external constraints, Schmitz defines these as (1) exploitation and interference by large enterprises and governments, and (2) lack of access to resources, including credit, raw materials, information, technology, and markets. As a result of these internal and external constraints, those working in the informal sector are characterized by low productivity of labour and they are forced to accept low wages and often rely on unpaid family labour (Schmitz 1982).

Some economists contrast the informal sector with the formal or modern sector of an economy. In addition to a different legal status, the formal or modern sector is distinguished by a far greater use of capital and technology (Anderson 1982, Cortes, Berry and Ishaq 1987, Lewis 1954, and Schmitz 1982). The modern sector is more efficient and has higher levels of productivity than the informal sector due to the availability of capital and to the use of technology.

With regard to the definition of a micro-enterprise, there is also no single commonly used definition (Liedholm and Mead 1987, Nqwire 1995). Most writers seem to use the terms 'micro-enterprise' and 'informal sector'

synonymously. Based on the discussions held at a major micro-enterprise development conference as summarized by Levitsky (1988:5):

...the participants generally regarded the micro-enterprise sector as identical to the informal sector. Most speakers did not see great purpose or benefit in a prolonged discussion as to a suitable size definition to define a micro-enterprise. They did agree that the term referred to very small income generating units, owned and managed by entrepreneurs who worked in it themselves, from which they derived most of their livelihood, which employ very few people, if any, mainly relying on family members, and using very little capital.

Some researchers from the 1980s used the terms 'household' enterprise (Anderson 1982) or 'cottage industry' (Cortes, Berry and Ishaq 1987) rather than a micro-enterprise when describing those operating in the informal sector.

For research classification purposes, a number of researchers have tried to distinguish between small, medium, and large enterprises. Some researchers have also noted a sub-group on the lower end of the small enterprise scale called micro-enterprises. There is no commonly accepted method of size classification and researchers have generally adopted their own classification schemes. In classifying enterprises based on quantitative criteria, most researchers have used either sales turnover, value of assets or number of employees.

Based on the literature review conducted for this research, it is apparent that the number of employees is the most often used variable in enterprise classification schemes. According to Cotes, Berry and Ishaq (1987:14):

...in some contexts other variables may be a more appropriate measure of size than employment, but the level of employment is the most easily and accurately measurable variable; moreover, its frequent use in other countries permit a greater number of useful comparisons.

For purposes of their research in Colombia, Cotes, Berry and Ishaq (1987) used the following enterprise size classifications:

Cottage shop- 1 to 5 workers, including the owner

Small-6 to 49 workers

Medium-50 to 99 workers

Large-100 or more workers

However, they clearly point out that their research excluded micro-level firms with five or less workers.

According to Liedholm and Mead (1987:3), employment is almost always used in enterprise size classification “because it is simple, relatively easy to measure accurately, and a readily available indicator of size that can be compared across countries.” In their summary of work in fourteen countries, Liedholm and Mead (1987) indicate that small firms were defined as those with less than 50 employees and there was no lower limit. They acknowledge that although the upper limit of 50 employees to be classified as a small firm was arbitrarily chosen, this upper limit is commonly used in other classification schemes and it is small enough to exclude “most foreign-owned firms as well as most of those complex,

specialized factories that have privileged access to capital and other inputs” (Liedholm and Mead 1987:3). They also indicate that there is an increasing interest in the potential of micro-enterprises generally defined as having less than 10 workers. In many of their tables and analyses, Liedholm and Mead (1987) treat micro-enterprises with less 10 workers as a separate category from small enterprises with 10 to 49 workers. They also point out that some researchers (Steel 1983) and Government classification schemes (India) specifically exclude from the small enterprise category those smallest enterprises at the lowest end of the size spectrum. Steel (1983) argues that there must be some human or physical capital entry barriers before a firm can be considered.

Liedholm and Mead (1987) indicate that many governments had their own classification schemes for the smallest enterprises based on employment size as indicated in Table 2.1.

Table 2.1: Government Classifications of the Smallest Enterprises

Country	Classification Name	Number of Workers
Colombia	Household	Less than 5 workers
India	Tiny	Less than 26 workers
Indonesia	Handicraft	Less than 5 workers
Philippines	Cottage shop	Less than 20 workers

Source: Liedholm and Mead 1987.



Also, in reviewing the relevant literature, various researchers have developed their own employment size definitions of the smallest enterprises as indicated in Table 2.2.

Table 2.2: Researchers Classifications of the Smallest Enterprises

Researcher	Year	Term	Number of Workers
Hoselitz	1959	Dwarf	Less than 5
Anderson	1982	Household	Less than 5
Cortes, et al	1987	Cottage shop	Less than 5
Liedholm and Mead	1987	Micro-enterprise	Less than 10
Otero	1989	Micro-enterprise	Less than 6
USAID	1991	Micro-enterprise	Less than 10
Webster-World Bank	1991	Micro-enterprise	Less than 10
Nubler	1996	Micropenterprise	Less than 5

Although the number of workers is the most commonly used variable in enterprise classification schemes, many researchers have pointed out measurement issues and problems in using this variable. Liedholm and Mead (1987:3) indicate that some of the limitations in using employment as an enterprise classification variable include “the seasonality of labor, unpaid family labor, and its relative inappropriateness as a measure when employment promotion is a policy or program objective.” Nqwire (1995:52) indicates that “the employment size criterion is imprecise because the employment variable itself is a troubled academic battlefield, both as a concept as well as a term of measurement.” Henk (1990) indicates that labour is not homogeneous and that most small enterprise research has ignored the special labour market situation experienced in

small and micro-enterprises such as seasonality and unpaid family labour.

“It is usually assumed that a job created in a small enterprise is equivalent to a job created in a large-scale, modern industrial enterprise, although that is not generally the case” (Henk 1990:432).

Other researchers have used qualitative definitions of a micro-enterprise based on how stakeholders benefit from it. Those who focus on a micro-enterprise as being primarily a household level activity tend to stress its potential to help with family survival (Berger 1989, Nubler 1996, Wiess 1988). Nubler (1996) views a household micro-enterprise as expanding the ‘survival territory’. “The household unit ensures the survival of all its members by reallocating resources and labour between various activities” (Nubler 1996:8). According to the survival territory concept, the aim of micro-enterprise activity is not profit maximization, but to ensure the survival of the individual and the family.

Peattie (1987:27) indicates that:

Micro-enterprises constitute a way in which those at the bottom of the system command and aggregate resources. They provide for those without educational credentials, not the surety of upward mobility, but instead a setting in which those with few status resources can have the prideful sense of being ‘independent’.

For purposes of this research, the informal sector is defined as the sector of the economy in which micro-enterprises and their stakeholders operate.

Micro-enterprises are defined as unregistered or minimally registered

economic units with five or less full-time equivalent workers, including the owner and all unpaid family labour. Micro-enterprise stakeholders are defined as the owner(s), family members, employees, customers, and suppliers of the micro-enterprise. In applying this definition, the focus of this research is on urban and peri-urban household economic units. This study did not include rural economic activities such as peasant farm households or pastoral nomads. While an innovating peasant farmer could certainly be considered to be an entrepreneur, the micro-finance literature and research tends to exclude farming related activities in both theory and practice. Therefore, the extensive literature on indigenous technical knowledge or farmer-led research was considered to be outside the scope of this study.

### 2.1.2 Development of Perceptions

Section 2.2 reviews the relevant literature on micro-enterprises in relationship to economic development theory. Section 2.3 classifies and describes different approaches of providing assistance to micro-enterprises operating in the informal sector of developing countries. Chapter Three reviews the literature on efforts to measure the economic impact of assistance provided to micro-enterprises. However, the question of whether it is beneficial to provide assistance to micro-enterprises has been an issue of debate amongst economists, policy makers, and donors for a

number of years. This section provides an overview of how perceptions of the informal sector and interventions to assist micro-enterprises have changed and developed from the early 1950s to the early 1990s.

Prior to 1972, there were few references to the informal sector or micro-enterprises in the literature of economic development. Lewis (1954) presented a dualistic model of economic development inspiring economic development theory and policy until the early 1970s. In his dualistic model, there are two sectors of the economy called the 'traditional/agricultural' sector and the 'modern/industrial' sector. The traditional/agricultural sector provides an infinitely elastic supply of labour to the modern/industrial sector at the prevailing wage rate. As investment increases, labour will be transferred from traditional/agricultural activities characterized by low productivity to the high productivity modern/industrial sector. Lewis (1954) was mostly concerned about increasing savings and investment to increase the speed at which labour could be transferred to the modern/industrial sector. He viewed large masses of impoverished people as a temporary problem.

Kuznets (1955, 1963) also viewed the problems of poverty and large masses of impoverished groups as a necessary, but temporary phenomenon disappearing with the growth and development of the modern sector of the economy. Kuznets (1955, 1963) developed the

'hypothesis of the inverted U' which argued that increasing income inequality was necessary at the beginning of a country's industrialization, but this trend would reverse at a later stage when the benefits of economic growth were be more widely distributed via increasing demand for labour in the industrialized sector.

According to Nubler's (1996:5) overview, these models:

...do not foresee people who were neither working in the agricultural sector nor absorbed in the modern sector. The existence of a growing number of people outside the traditional/agricultural sector and modern/industrial sector was ignored both in theory and practice.

During the 1950's and 1960's, both international and national development agencies allocated most of their assistance to trying to expand the modern/industrial activities of the formal sector and largely ignored any efforts to assist the informal sector.

Todaro (1969) tried to explain the growing number of informal sector workers in the urban centres of developing countries with a model of 'rural-urban' migration. Rural to urban migration is explained as a function of the differentials between rural income and the income expected from migration, which equals the modern sector urban wage multiplied by the probability of obtaining a job in the city. Rural to urban migrants who are unable to find employment in the modern sector will either seek casual and part-time employment in the urban traditional sector or they will become unemployed. The urban traditional sector was considered a residual sector

with low productivity and low income where those who could not obtain paid jobs in the formal sector try to survive.

In addition to being largely ignored by economists, those in the informal sector were often viewed negatively by the media and the general public. In many countries, this led to harassment by the police and fostered a bias of government policies against the informal sector. According to Sanyal (1991:8), urban “informal workers were depicted as potential troublemakers, and they were blamed for creating slums, illegal shanty towns and a culture of poverty which implied fatalistic attitudes and discouragement.” The ILO (1972:506) indicated that governments viewed urban informal sector workers as “trying to survive through begging, hawking and petty crime.”

By the early 1970s, it was increasingly recognized that most developing countries had been unable to productively employ its labour force in the modern sector. A considerable part of the urban population made its living in small-scale activities, most of which were unregistered and escaped measurement in statistical surveys. This sector increasingly began to be called the informal sector. In 1972, the ILO undertook a comprehensive employment mission at the request of the Government of Kenya. The report (ILO 1972) highlighted the urban informal sector and its role in the Kenyan economy, and it rejected the idea of the informal sector as a

temporary phenomenon. The report identified the informal sector as having the potential for growth and for employing an increasing number of workers. It suggested a strategy to promote the informal sector that was both growth oriented and poverty reduction oriented and included measures to increase the income of the poor, to increase the demand for informal sector products and to change Government policy towards the informal sector.

This ILO work in Kenya and other follow-up studies by the ILO (Sethuraman 1976) are often cited as being instrumental in changing perceptions about the growth potential of the informal sector. Schmitz (1982) indicated that the changing view of the informal sector and its potential for growth largely grew out of the work of the ILO in Kenya in 1972. However, other economists did not agree and expressed contrary views. According to Bromley (1978:1162):

The view of the urban informal sector which has been recently institutionalized by the ILO emphasizes the growth potential of small, labour intensive businesses and recommends major official assistance to the sector. The small businesses are generally considered to be independent, unorganized, almost unregulated, little related to the authorities or big business, and essentially honest, legitimate and entrepreneurial. This new style official view of the so called 'informal sector' may be just as dangerous and impractical as the previous official ignorance and neglect of the occupations which are now frequently classified together as the informal sector.

Bromley (1978) and Sandbrook (1982) were concerned that micro-enterprises in the informal sector would always be exploited by larger businesses, governments and powerful groups in society and they would

not be able to realize their growth potential without substantial policy and systemic changes. Bromley (1978) and Sandbrook (1982) were also concerned about a second level of exploitation, of informal sector workers by owners of informal sector businesses.

During the early part of the 1980s, much of the debate was about whether the informal sector had potential for expansion, growth and development. Schmitz (1982) summarized this debate with a review of whether small-scale producers in developing countries can expand or whether they are up against constraints which stunt their growth. Schmitz concluded that most views on constraints are either theoretically inconsistent, or empirically unsubstantiated and that the issue is not whether small enterprises have growth potential, but under what conditions.

The development of small-scale production is not just an outcome of pressures and constraints but also of opportunity and potential. The road to expansion might be rough and hilly, but it is not black and impassable. The pressures emphasized by those who warn about marginalization are real, but the conditions which determine their pervasiveness vary and must be studied and specified. Hence the issue is not whether small enterprises have growth and employment potential but under what conditions. The task ahead is more difficult as the relative importance of various factors need to be established (Schmitz 1982:445).

Although the academic debate about the potential of the informal sector continued, many experimental programmes to assist micro-enterprises were conducted by international financial institutions, bilateral donors, national governments, and private NGOs. According to Nubler (1996), the



micro-enterprise sector attracted substantial attention during the 1980s due to the poor performance of modern industry in creating jobs in the 1970s and the need to cope with economic structural adjustment pressures in the 1980s.

When structural adjustment and privatization became an important policy in the 1980s, the role of governments was to be reduced and the private sector to play an increasing role in the economy. In this context, the enterprises operating in the informal sector attracted particular attention from development agencies, policy-makers, and researchers. At the same time, multilateral and bilateral development agencies shifted substantial resources to micro-enterprise development (Nubler 1996:11).

The debate over interventions to assist micro-enterprises may be organized around the following four issues:

#### A. Inefficient markets and better allocation of resources

Market conditions in developing countries are very different from in a developed competitive economy with well-integrated and efficient factor and product markets. Anderson (1982) indicates that markets are segmented and micro-enterprises lack access to know-how, skills, credit, technology, inputs, and information. In comparing developing countries with the markets of developed countries, Kilby (1988:224) justifies intervention to assist micro-enterprises on the basis “it may well be that ignorance of present conditions and possibilities represents the dominant constraint in indigenous entrepreneurial activity.”

The ILO (1991:54) justifies interventions to assist micro-enterprises by concluding “if the markets do not function and the institutions do not have the capacity, one has no choice but to resort to project interventions.”

## B. Potential for Job Creation

The failure of the formal sector to create a sufficient number of jobs to absorb the increasing labour force is a major justification to assist the informal sector. According to the World Bank (1989), by 2020, approximately 95 per cent of all African workers will be engaged in informal activities, whose average contribution to GDP will grow from under one half to more than two thirds.

As documented in a summary of the country studies conducted by Liedholm and Mead (1987:71), “virtually all studies indicate, for example, that small manufacturing firms generate more employment per unit of capital (i.e. are more labor intensive) than their larger-scale counterparts.” Liedholm and Mead and various colleagues at Michigan State University conducted extensive surveys of both small and micro-sized enterprises in a number of developing countries between 1975 and 1990. In 1987, information from surveys in 14 different countries was summarized and provided valuable information on the significance of employment by small and micro-sized manufacturing enterprises (Liedholm and Mead 1987).

These country surveys are often cited as a justification to assist micro-enterprises to both create and sustain employment. Across the 14 countries summarized, approximately two thirds of all manufacturing employment was in enterprises with less than 10 workers. This ranged from 35 percent in Jamaica to more than 80 percent in Ghana, Sierra Leone, and Zambia. The authors found a negative correlation between per capita income and the percentage of manufacturing workers employed by enterprises with less than ten workers (Liedholm and Mead 1987). As per capita income increases, a country has more savings and capital available for investment and this leads to a reduction in the percentage of workers in small scale manufacturing enterprises with less than 10 workers.

In reviewing the size distribution of manufacturing firms in these fourteen developing countries, Liedholm and Mead (1987:21) indicate that “eighty-five per cent or more of the firms in all of these countries employed fewer than six persons.”

Streeten (1991:27) provides a number of arguments for assisting micro-enterprises. With regard to job creation, he indicates that:

The labour force in low-income countries is likely to grow rapidly in the next fifteen years, and neither agriculture nor the formal industrial sector is capable of absorbing even a fraction of these additions, to say nothing of the large number of already unemployed or underemployed people. The combination of population growth, urbanisation, and recessions has swelled the informal sector, which presents the only hope for jobs.

## C. Poverty Reduction, Improved Income Distribution or Social Stability

Page and Steel (1984) indicate that assistance to micro-enterprises can contribute to improving income distribution either through growth in the number of workers and by raising productivity in the assisted enterprises. Streeten (1991) believes that assistance to micro-enterprises can improve income distribution and improve social stability resulting in less possibility for revolutions and violence. Streeten (1991:27) adds that “by harnessing the potential for micro-enterprises to generate income (and self-respect), not only is efficient growth promoted but also poverty is reduced.”

Pradhan (1989), Strassman (1987), and Tokman (1989) also believe that properly planned direct assistance to micro-enterprises can reduce poverty and improve income distribution.

## D. Human Capital Formation

A number of authors (Farbman and Steel 1992, Harper and Shailendra 1988, Martinez 1990, Reed and Befus 1992) indicate that larger enterprises in the formal sector often started as micro-enterprises and another justification for assistance is to help in the process of human capital formation by allowing entrepreneurs to gain experience.

The growth of micro-enterprise development programmes during the 1980s led to increasing interest in the field and the first major conference for practitioners was held in June 1988 in Washington DC, under the sponsorship of the Pan-American Health Organization. Jacob Levitsky of the World Bank was the moderator of the Conference and he summarised the proceedings of the conference in a Summary Report (Levitsky 1988). Most of the conference participants were very positive about the potential impact of providing assistance to micro-enterprises. A number of the conference presentations were later published as separate papers. These papers show how the perceptions about micro-enterprises and the potential for assistance to micro-enterprises were developing at the end of the 1980s.

DeSoto's paper summarised his views on micro-enterprises and micro-entrepreneurs from his research in Peru. This research was presented in his book called "The Other Path" (DeSoto 1989). He praised the entrepreneurial spirit of the micro-entrepreneur and identified them as the 'true indigenous entrepreneurs'. He saw substantial employment and wealth generating possibilities for micro-enterprises if they could overcome legal barriers, government interference, and bad laws. He proposed a number of positive legal and policy interventions to promote economic growth and efficiency in the informal sector.

Tokman (1989) began to focus on the heterogeneity of micro-enterprises and suggested that assistance should focus on those that have growth potential. He distinguishes between 'viable' and 'vulnerable' sub-sectors of micro-enterprises. Vulnerable micro-enterprises are defined as one person businesses that work in highly competitive markets and have no expansion potential. Viable micro-enterprises are usually businesses where economies of scale are not significant and they are not attractive to larger enterprises. Competition in these viable sub-sectors is weak and micro-enterprises may be able to find niches that allow for expansion and employment creation. According to Tokman (1989:17),

Contrary to the prevailing image of a decade ago to the effect that the informal sector was of a homogeneous nature, it is clear that there are different segments within the sector. If form of organization is taken as a main variable to define an informal activity, a difference should be established between those units using additional labor (whether paid or unpaid) and those representing activities performed by only one person.

By the early 1990s, there was an increasing concern about the impact of interventions to assist micro-enterprises. Two major summaries of research issues about micro-enterprise raised significant questions whether assistance to the informal sector would really lead to economic growth and development. Henk indicates that:

...vulnerable groups emerge because an economic structure needs them to emerge, and to believe that small-scale businesses can be turned into the engine of growth, equality, and development is to ignore history. It has not happened. In my opinion this is unlikely to happen given the fundamental disturbances in urban labour markets related to long-run supply factors, especially demographic pressures (Henk 1990:433).

During the 1980s and early 1990s, USAID was among the largest donors providing support for micro-enterprise development programmes. Michael Farbman was the first Director of USAID's global micro-enterprise office from 1986 to 1993. In 1992, he published a paper on major research issues and priorities. This paper concludes with a concern that assistance to micro-enterprises would not lead to growth and development if markets were not growing.

A contrary hypothesis is that assisting more people to enter business for themselves only reduces incomes of those already in business and hence reduces the chances for success and growth. Although it is difficult to gather the data necessary to test this hypothesis, the question needs to be asked if the economic benefit of micro-enterprise programs are to be assessed correctly (Farbman and Steel 1992:32).

## 2.2 Micro-enterprises and Economic Development

### 2.2.1 General Development Models

In this section, the micro-enterprise is set in its general development economics context. There is no consensus as to a precise definition of development economics or the exact nature and priority of its aims. Central themes recurring in most definitions include increases in a country's real per capita income and some emphasis on equitable distribution. Thus Meier writes:

Economic development is defined as the process whereby the real per capita income of a country increases over a long period of time - subject to the stipulation that the number below an absolute poverty level does not increase, and that the distribution of income does not become more unequal (Meier 1976:6).

Others (Little 1982) argue that no definition is possible, that it is best just to describe the facts and address various issues individually as they arise. Yet others (Todaro 2003) focus upon more qualitative aspects of human existence such as life sustenance, self-esteem, and freedom from servitude. Those who take an incomes based approach typically believe that these more qualitative features of development involving also health, life expectancy, literacy, and so on, follow in some natural way from growth in per capita income. In this regard, micro-enterprise assistance endeavours principally to enable increases in individuals' income; however, the holistic approach to this assistance discussed in section 2.3.3 endeavours also to directly contribute to certain of these more qualitative ends.

The period following the end of the second world-war saw tremendous growth in the number and extent of development initiatives. The aim of these was to enable poor nations to quickly reach the same levels of economic growth and prosperity as the industrialised west. Some of the fundamental theoretical models concerning economic growth are presented below along with brief comments as to how the historical manifestations of such models fared over time.



One early and important model concerned with economic growth is the Harrod-Domar model, named after Roy Harrod and Evsey Domar, two economists who separately, but concurrently, developed variants of it. In the model, savings is equated with investment and so abstention from current consumption allows for increases in capital. Capital in turn allows for greater output. The model then relates two factors, the savings rate and the capital-output ratio, to economic growth. The model can be extended to allow for depreciation and population growth.

And capital was indeed the focus of the development initiatives of the 1950s and 1960s. It was believed that economic development in Third World nations could be brought about by achieving in developing societies the industrialisation that had taken place in the west. However, while capital was an important factor in economic development, it was not sufficient. Various necessary structural, institutional and attitudinal conditions that had been in place in the west did not apply to many developing countries. In these countries, there was often concentrated political power and asset ownership; the work force was less educated; developed transportation facilities often did not exist. In many countries, these various structural barriers limited the amount of economic growth that could be achieved.

Lewis' theory of economic growth (Lewis 1955) was proposed to provide a model as to how certain structural changes could come about. Lewis proposed a dual economy which consists of a traditional rural subsistence sector and a modern urban capitalist sector. Lewis argued that the traditional sector is characterised by a labour surplus: labour can be removed without loss of output (the physical marginal product of labour is zero or near zero). In contrast with the traditional subsistence sector, the modern sector can achieve economic growth by capital accumulation. As rural-urban migration takes place, the labour surplus allows capitalist entrepreneurs tremendous potential for profit, limited only by the supply of capital. Lewis (1955:234) writes:

In the early stages of capitalist development an unlimited supply of labor is available at a subsistence wage, if only because capitalist employment is small relative to the total population, but even more so if the economy is overpopulated, or if the population is growing rapidly. In such a situation, practically the whole benefit of increases in productivity in the capitalist sector goes into profits.

This permits industrial development with unlimited supply of labour, at least until the surplus labour phase comes to an end. Eventually wages in both sectors increase and the poor may benefit either by being drawn into the modern sector or by a higher income in the traditional sector.

Indeed, perhaps attracted by the prospects of income growth offered by urban industrialisation and/or propelled by rising rural poverty, massive rural-urban migration has taken place in this period following World War II. Arguably, the rural-urban migration was too extensive: there has been

rapid growth in the urban supply of labour and the modest growth in the modern sector has resulted in only relatively slow growth in the demand for labour. The modern industrial sector is not large enough to absorb the supply increase. Nevertheless, the migration continued despite rising levels of urban unemployment. The Todaro migration model (Todaro 1969, Todaro 1970) attempts to explain this apparent paradox. In this model, the decision to migrate depends upon the expected (weighted by probabilities) urban-rural wage differential rather than the actual wage differential. The decision to migrate thus depends upon the actual wage differential and the probability of obtaining employment in the urban sector. Migration rates in excess of urban job opportunity growth rates are possible with sufficiently large urban-rural wage differentials. Unemployment thus ensues and the urban unemployed spill over into what is an informal sector; and it is within this informal sector that there is an increase in the number of micro-enterprises.

Since Lewis' work, the concept of a labour surplus providing a potentially unlimited supply of labour to the modern sector has been challenged.

Those who were taken to be the unemployed had to find some means of economic activity in order to survive. Bienefeld and Godfrey (1975:6) write:

To the surprise of some, the figures which emerged showed relatively modest levels of unemployment in many Third World urban areas. In many parts of the Third World, unemployment is a luxury few can afford. Nevertheless, it was generally agreed that the finding of relatively low levels of unemployment did not mean that a problem of unutilized labor did not exist.

This of course also explains the rise of the informal sector. Various concepts such as 'disguised unemployment' (Harberger 1971) have been developed and extensions of Lewis' model have been made with these revisions (e.g. Ray 1998).

Micro-finance also represents a new interest in the traditional sector of the so-called dual economy: not as to how labour can better transfer from the traditional sector to the modern sector, but concerning how to better promote the production that continues to take place within the traditional sector. Micro-finance thereby focuses on labour-intensive, rather than capital-intensive, production. What, if any, help this can be in affecting a country's long-run economic growth is unclear (Pack 1974).

During the 1960s and 1970s many countries pursued policies of import substitution in order to protect domestic markets or in order to give them time to develop. However, in most cases these policies sustained various inefficiencies; imports were never adequately replaced by domestic substitutes. During this time there was also extensive lending to many LDCs. Interest rates gradually increased during the 1970s, especially after the oil price shocks engineered by OPEC (Organisation of Petroleum Exporting Countries), and with inflation running relatively high in developed countries, monetary policies were tightened and interest rates increased

even further. Worldwide recession in the early 1980s caused a fall in export prices and debt crisis in many LDCs (Least Developed Countries), especially in Latin America, ensued. Debtor countries made substantial cutbacks in investment and existing expenditures, including debt service, were often made by a combination of debt finance (which raised internal interest rates) and money creation which raised inflation. This led to further problems including hyper-inflation, loss of efficiency, and increased inequality.

Programmes of stabilization and structural adjustment were pursued in the 1980s in order to address the economic crises many of these countries were facing. These programmes generally involved achieving a large devaluation to bring domestic currency in line with international reality, aiming to reduce budget deficits, and opening the economy to international markets (Sachs 1989). The devaluation was undertaken in order to expand exports but required also that inflation be brought under control. By reducing budget deficits it was hoped that inflation would be reduced or slowed down. Opening the economy to international markets would perhaps eliminate inefficiencies and it was argued that an international free-market economy leads to the best state of affairs for a society. Nevertheless, many countries imposed further import restrictions, and were supported in these, in order to achieve a trade surplus.

The structural adjustment programmes were successful in achieving certain of their objectives. However, the cost of these programmes was quite high: the reduced public investment slowed down long-run capital accumulation. Not only did real income decline, but unemployment increased substantially and real wages fell in most countries (Edwards 1989). With lower public expenditures it became more and more difficult for the state to meet the needs of health care, education and welfare of its increasing poor. Voluntary agencies became increasingly aware of the needs of the poor and micro-enterprise assistance programmes continued to develop during this time.

The so called “new growth theories” attempt to explain persistent growth and the dramatic disparities in economic performance across countries for which previous models had been unable to account. These new theories place emphasis on human capital (Barro 1991, Mankiw, Romer and Weil 1992) or technological progress (Romer 1990). These models make economic growth a consequence of long-run equilibrium in which technological progress or the development of human capital are seen as endogenous. The models also allow for increasing returns to scale in aggregate production and various externalities. Like previous models there is emphasis on the importance of savings and capital investment; however these new models explain how the potentially high rates of return on investment available in developing countries is offset by lower levels of

investment in human capital, infrastructure, or research and development (Barro 1990, Lucas 1988, Romer 1986). Because of various externalities, free markets result in lower levels of investment in these latter areas than is optimal. Governments can therefore improve the efficiency of resource allocation by public spending in these areas. Although offering an important extension to previous growth models, these new growth models are often criticised as being of limited relevance to developing countries in so far as they do not take into account the inadequate institutional structures, and imperfect capital and goods markets often found in developing countries. Furthermore, with their emphasis on long-run equilibrium they neglect the short and medium state of affairs which arguably are of great importance, especially as regards the poor, in developing countries.

With the persistent failure of these development strategies, it is not hard to see why, over time, micro-finance with its focus on quickly meeting the immediate needs of the poor, has been believed to hold such promise.

Bigsten (1987:157) writes:

During the fifties and early sixties the general view among economists was that, if growth was rapid, poverty and inequality could eventually be alleviated by the natural course of change... During the sixties, it became increasingly clear that the LDCs were characterized by a high degree of inequality and poverty, and the seventies were therefore characterized by a search for development strategies, of which income equalization and poverty alleviation were integral parts.

Micro-finance was one such effort in response to this search. By lending directly to poor individuals it seemed possible that poverty alleviation and

some degree of income growth could be achieved before fundamental economic shifts took place.

Perhaps of related significance concerning the importance of micro-finance is Kuznets' hypothesis of the inverted U (Kuznets 1955, Kuznets 1963). This hypothesis proposed that as per capita income increases, economic progress is at first accompanied by increasing inequality, and it is only later, as the benefits of development permeate more widely, that the inequalities begin to decline. It can thus take a long time before the poorest individuals in society experience any increase in their relative income share. Kuznets' hypothesis suggested that not only would the poor have to wait until sustainable economic growth could be achieved before experiencing any reduction in poverty but that they would have to wait a sufficiently long period of time thereafter so that the benefits of this growth could trickle down to them. Again, micro-finance seemingly allowed for poverty alleviation long before what might otherwise be possible.

Seen within an historical and theoretical context as outlined above, it is easier to consider the role of the micro-enterprise and micro-enterprise assistance within development economics. It is frequently noted (Boomgard 1991, Farbman and Steel 1992, Liedholm and Mead 1989, Morduch 1999) that the evidence for the role of micro-finance assistance



in poverty alleviation is mixed and very limited. This is discussed further in Chapter 3. However, even the optimists do not conceive micro-finance as being the final solution to economic growth. At best, it enables the generation of additional income over certain periods of time and perhaps has a minor trickle down effect. However, it rarely generates new jobs for others (Liedholm 1991, Liedholm and Mead 1987, Malhotra 1992) and there is little evidence of micro-enterprises 'graduating' to become modern small scale firms (Meyer 1989, Stearns 1991). Micro-enterprises do not provide the economics of scale and industrialisation which may be needed for sustained long term growth.

The distinctive feature of economic growth is not that the little man is saving and improving his productive capacity. This is a necessary and a desirable feature; but the distinctive feature of growth is that a few persons, private individuals, corporate bodies or government agencies are disposing of large sums on costly project (Lewis 1955:265).

Nevertheless, evidence is provided in Chapters 6, 7, and 8 that forms of micro-enterprise assistance do lead to substantial increases in entrepreneurs' income and can thereby be useful in alleviating poverty. It may be then that an intermediate view is justified which holds that: although micro-finance perhaps has little potential impact on a country's long-term economic growth, micro-finance services do have a role in helping to alleviate poverty while economic growth is being achieved.

## 2.2.2 Poverty Assessment Models

It is seldom disputed that poverty causes enormous pain and suffering. Poverty prevents many from acquiring the material necessities required for survival. Poverty results in illiteracy, undernutrition, and ill health. These limit the opportunities of the poor yet further. Poverty destroys aspirations and hope. The removal of poverty is one of the fundamental goals of economic development and it is often argued that the micro-enterprise and micro-enterprise assistance can play a fundamental role in this respect. In order to assess the role of the micro-enterprise and micro-enterprise assistance in poverty reduction and how this assistance is best structured in order to attain this end, it is important to understand how poverty is measured. In this section we review various poverty assessment models. Section 3.4 discusses empirical research relating to the role of micro-enterprise assistance in poverty reduction. The issue is taken up again in section 6.5 with regard to the micro-enterprise clients in this study.

Poverty assessment models almost all employ the concept of a poverty line. The poverty line is generally defined as the income needed to meet basic material needs. Often this is taken to mean simply the income that is sufficient to purchase a nutritionally adequate diet; when this level of income is taken as the poverty line, it is frequently referred to as the

‘absolute poverty line’ so as to distinguish it from a ‘relative poverty line’; the latter often being employed for poverty measurement in developed countries in which poverty is measured relative to the prevailing socio-economic conditions and set according to some level of acceptable participation in society. More conservatively, the poverty line is sometimes set to include also basic shelter and clothing. Greeley (1994:54) notes:

The precise selection of a line that covers material needs is, within some small range, a matter of convenience in a matter about which there is no basis for great loyalty to any particular value. It involves an empirically-informed value judgement designed to reflect the income need for meeting basic material needs. There is necessarily some degree of error for any specific household but since the main use of poverty lines is comparative analysis over time or between groups of households, great precision in setting the line is less important than consistent application.

In any case, the poverty line is ultimately set at a particular income level and employed by the various measurements of poverty described below.

The simplest poverty measure is that of the head count or head count ratio. The former is simply the number of people in any given country or region who fall below the poverty line and the latter is the same number but divided by the total population in that country or region. The measures are widely used but not entirely adequate because they fail to capture the extent to which individuals fall below the poverty line. This can be particularly problematic for policy measures undertaken to reduce poverty in so far as they may target those who are very close to the poverty line as this will be the easiest way to reduce the head count of

those in poverty. Such an approach might well ignore those groups who are furthest below from the poverty line and most in need.

Poverty gap models remedy this short-coming. The poverty gap measures the total amount of income necessary to raise everyone who is below the poverty line up to that line. Such a calculation is able to capture the extent to which individuals fall below the poverty line. The figure is often expressed as a percentage of the national income or of the total income required for the number of individuals below the poverty line to be living just at that line. The terms “poverty gap ratio” and “income gap ratio” are sometimes used to distinguish between these two measures. However there seems to be some discrepancy in nomenclature (compare Ray 1998 and Todaro 2003). The poverty gap models are often used in conjunction with head counts and this can be reasonably informative.

However, even these poverty gap models are sometimes criticised for being inadequate since they do not satisfy what may be called the “weak transfers principle” (Foster 1984, Sen 1976). The weak transfers principle states that a measure of poverty should be such that a transfer of income from any person below the poverty line to anyone less poor, while keeping the set of poor unchanged, will raise the measure of poverty. Foster, Greer and Thorbecke (1984) developed a class of models indexed by a parameter  $\alpha$  for which certain cases satisfy the weak transfers principle.

The measure can be expressed as  $P_{\alpha} = \sum_{y_i < p} [(p - y_i)/p]^{\alpha} / n$  where  $n$  is the population of the region concerned,  $p$  is the poverty line, and  $y_i$  is the income of individual  $i$ . For  $\alpha=0$ , the measure is simply the head count ratio; for  $\alpha=1$  it is the poverty gap model; the case of  $\alpha=2$  satisfies the weak transfer principle and has been found to be a useful measure for poverty assessment. Work has also been done by Sen (1976) to develop other sophisticated measures for the appropriate assessment of poverty.

Many have of course questioned the use of income levels as being adequate for assessing poverty (Chambers 1995). Income may not capture well the welfare of the poor. One measure of poverty which has attempted to go beyond income is the Human Poverty Index developed by the United Nations in its 1997 Human Development Report. The index consists of a weighting of life expectancy, basic education, and the overall economic provision the country provides. In the 2001 Human Development Report rankings were calculated for 90 developing countries. However, an incomes-based approach continues to have the advantage of being easier to measure and more objective (Greeley 1994).

### 2.2.3 Entrepreneurial Models

At the centre of the micro-enterprise lies the entrepreneur. With regard to the present study, understanding the role of the entrepreneur within the

micro-enterprise may allow for better interpretation of the study results and clearer understanding of the study limitations. In this section, general trends in thought about entrepreneurship are discussed; this theory is then related to the situation of the micro-entrepreneur; finally the role of the entrepreneur in economic development is discussed.

One of the earliest writers on the theory of entrepreneurship was Knight (1921). For Knight, the entrepreneur was the one who was responsible for the direction of economic life through decision making, thereby assuming both responsibility and control. The decision-making role of the entrepreneur concerned, principally, decisions about uncertainties: through insurance markets, risks could be diversified, but when information was limited, entrepreneurs faced uncertainty and this could not be eliminated. When successful, the entrepreneur was rewarded for this taking on of uncertainty:

The receipt of profit in a particular case may be argued to be the result of superior judgement. But it is judgement of judgement, especially one's own judgement, and in an individual case there is no way of telling good judgement from good luck, and a succession of cases sufficient to evaluate the judgement or determine its probable value transforms the profit into a wage (Knight 1921:311).

This potential benefit would thereby attract those with judgement, foresight, managerial ability, confidence, and a willingness to embrace risk, to the task of entrepreneurship. For Knight, the role of the entrepreneur in the economy was a critical one:

The supply of entrepreneur qualities in society is one of the chief factors in determining the number and size of productive units. It is a common and perhaps justifiable opinion that most of the other factors tend toward greater economy with increasing size in the establishment, and that the chief limitation on size is the capacity of the leadership (Knight 1921:283).

The role of the entrepreneur in the economy in Schumpeter's theory (1934) was also very important. In his theory, economic development takes place by entrepreneurial innovation. He rejects a static model of the economy and argues that change takes place when entrepreneurs carry out new combinations in production. These may include new or better quality goods, new methods of production, new markets, new supply sources, or new types of industrial organisation. Schumpeter also distinguishes between the capitalist who invests and thereby bears risk and the entrepreneur who has a more managerial role. The bridge between the two is the provision of credit which allows the entrepreneur access to the capital needed to implement the desired changes.

Weber (1930) proposes that the entire capitalist system was shaped by an entrepreneurial Protestant work ethic formed by a variant of Calvin's idea of calling. This idea of calling suggests that some have been predestined so that they may live life to glorify God. This may be accomplished in part by achievement and achievement furthermore gives evidence that one is among the elect. This goal of achievement led to great discipline and work ethic and produced vast wealth. However this wealth was not to be spent on sensual pleasure but for the building up of

the community, which meant reinvestment. With saving thus very high, tremendous capital accumulation was possible. Weber (1930:180) concludes, "One of the fundamental elements of the spirit of modern capitalism, and not only of that but of all modern culture: rational conduct on the basis of the idea of a calling was born... from the spirit of Christian asceticism."

Somewhat later in the history of economic theory, Baumol (1968) complains about the lack of theory concerning the entrepreneur. Concerning the entrepreneur, he writes, "In more recent years, while the facts have apparently underscored the significance of the role, he has virtually disappeared from economic theory" (Baumol 1968:64). He suggests that neo-classical theory has left no role for the entrepreneur; with its emphasis on perfect information, neo-classical theory trivialises management and decision-making. He goes on to distinguish between the entrepreneur and the manager. The manager is the individual who oversees and ensures the efficiency of the production process; the entrepreneur, in contrast, locates new ideas and puts them into effect. He argues that it is entrepreneurship that allows one country to develop and another not and that furthermore policy makers should consider carefully what policies encourage entrepreneurship. Leibenstein (1968) places some emphasis in gaps or deficiencies in information and markets. Whether the managerial type or the innovator type, the task of the



entrepreneur is to make up for these deficiencies. He thus coordinates activities in different markets; he is an inter-market operator.

Casson (1982) attempts to identify a shared element in much of this theory by introducing the concept of entrepreneurial judgement. The entrepreneur is one who makes judgement decisions about the allocation of scarce resources. However, these decisions may require knowledge which is not freely available and furthermore, there is no way to know whether a given decision rule is correct. Moreover, different information is available to different people and the cost of acquiring information can vary. Thus individual judgements can differ. When judgements conflict, those who are sufficiently confident will acquire assets that they believe are under-valued. The entrepreneurs' role in the economy is the acquisition and utilisation of information in making and acting upon judgements.

Although sometimes neglected, for many theorists the entrepreneur plays a major role in the economy: setting bounds on efficiency, enabling economic development, generating the entire capitalist system, or acquiring and utilising information. However, it is unclear the extent to which much of this theory is applicable also to the micro-entrepreneur, especially the micro-entrepreneur in developing countries. The definitions of the entrepreneur considered above typically involve one or both of

managerial activities or innovative activities, the undertaking of new projects. The definition seems to be applicable also to the micro-entrepreneur. Although operating on a smaller scale, the micro-entrepreneur similarly undertakes new projects. And although the managerial activities of a micro-entrepreneur without employees are somewhat simplified, the micro-entrepreneur must still devote some effort into ensuring the efficiency of the production process. However, although the definition of the entrepreneur provided by various theorists above is reasonably applicable also to the micro-entrepreneur, much of the theory developed thereafter is rendered irrelevant when the scale one considers is that of the micro-enterprise and when the context is shifted to a developing country.

For Knight (1921), the leadership capacity of the entrepreneur is the chief limitation on the size of the firm and therefore on efficiency. This consideration is irrelevant, however, in a situation in which the scale of the enterprise is perhaps no more than one person. It could be argued that it is precisely the extreme lack of entrepreneurial skill which keep enterprises from growing. This issue is taken up again later in this section. Knight describes various qualities whereby potential benefits may attract qualified entrepreneurs into entrepreneurial activity. In many developing countries, however, enterprise in the informal sector may be the only means individuals have available for survival. In such cases, it is necessity, not an

appraisal of important entrepreneurial characteristics, that drives individuals into enterprise. Anderson (1982:928) writes, "The decision to establish a small firm, for example, is sometimes less a matter of Leibenstein's first definition (innovation) than it is a product of poor employment opportunities."

Schumpeter (1934) describes the need of the entrepreneur for credit and surely this is a relevant consideration for the micro-entrepreneur also, as the growth of MFIs demonstrate. However, as has already been discussed, the role of the micro-entrepreneur in economic development is questionable at best. The role of the micro-entrepreneur is hardly the central one of accomplishing economic change as described by Schumpeter. Furthermore, prospects for innovation are limited for the micro-enterprise. Both Schumpeter (1934) and Weber (1930) assume that there exist sufficient capital and adequate institutional, economic, and political stability that innovation or capital accumulation can successfully take place without structural barriers. These conditions simply do not hold for micro-entrepreneurs in many developing countries.

The relevance of information for exploiting market inefficiencies (Casson 1982, Leibenstein 1968) also seems limited for micro-entrepreneurs. It is unclear whether micro-entrepreneurs possess the resources sufficient for the acquisition and utilisation of this information. Furthermore, research

indicating that barriers to entry are quite low and that the number of micro-enterprises tends to grow more quickly than market demand (Fisseha and McPherson 1991, Grant 1991) suggests that conditions faced by micro-entrepreneurs might correspond quite closely to perfect competition.

If much of entrepreneurial theory seems of little relevance to the situation of micro-entrepreneurs in developing countries, what then is the role of the entrepreneur in economic development? Better entrepreneurial abilities could contribute to poverty reduction and, therefore, training in business and management skills may be of some use in enabling this. But does entrepreneurship play a larger role in economic development than just enabling poverty reduction and if so what are some of the barriers which may prevent this role from being fulfilled?

Adelman (2001) argues that around the mid-1960s development economists and policy makers began to identify lack of entrepreneurial ability as a major barrier to economic development. Because of the missing entrepreneurial ability or the small number of entrepreneurs, additional capital became subject to sharply diminishing returns, and this situation could only be remedied by increasing the number or ability of entrepreneurs. Aid programmes began various training activities in developing countries, the World Bank created its Economic Development

Institute (now the World Bank Institute) to teach economics and management, and governments were told to structure policies so as to increase the supply of entrepreneurship. Indeed, Baumol (1968), in addition to proposing a more careful study of the rewards of entrepreneurship, suggests that the policy-maker should take steps that encourage entrepreneurial activity. Binks and Vale (1990:57) draw a useful distinction between “policy that is engineered to remove constraints upon potential entrepreneurial activity and policy that is designed to produce more entrepreneurs.” The objective is clear.

However, increasing the prevalence of the required entrepreneurial ability is not so easily achieved. The size of the informal sector documented in section 2.1 clearly shows that there is no lack of micro-entrepreneurs. Clearly something more is needed. Kilby (1988) argues that although there is no lack of entrepreneurs who are willing to undertake various small-scale projects, the vast majority of these entrepreneurs lack managerial skills necessary to coordinate a small or medium size business. He suggests that “these deficiencies can be traced to a low degree of coordination and planning, a disinclination to use written records intensively for purposes of control and the absence of conscientious supervision in the workplace” (Kilby 1988:225).

This lack of managerial ability creates a bottleneck that prevents these micro-enterprises from developing into modern small-scale businesses. His own empirical work suggests entrepreneurial development cannot be accelerated by providing a sheltered environment in which businesses are allowed to grow but rather that such provision can even hinder the building up of entrepreneurial competence.

After examining several important factors for economic development, Adelman (2001) ultimately concludes that there is no single cause for underdevelopment, but that a variety of factors including capital, entrepreneurial ability, adequate market structure, and reasonable government policies interact in complex ways dependent on countries' initial conditions and their economic, institutional, cultural and political history. Within the context of such an understanding of economic development, it may not be possible to achieve better entrepreneurship without gradual changes taking place throughout all areas of a developing country's economy.

In addition to these difficulties, motivation, psychological attributes, and managerial skills are often quite difficult to measure and have often moved from the realm of economics to that of sociology and psychology (Baumol 1968, Kilby 1971). This creates further problems for economists in designing, implementing, and assessing programmes to develop

entrepreneurship. Indeed such variables are not included in the present study.

#### 2.2.4 Firm Size and Age Models

The micro-enterprises included in this study were all among the smallest and youngest. In order to understand the implications of this size and age restriction on generalising the results to other groups and on policy measures related to poverty reduction, it will be useful to consider briefly the literature relating economic growth to firm size and age. It is to be noted, however, and this is discussed further below, that this literature comes almost exclusively from studies with data from developed economies.

Historically, the most important theory concerning firm size and growth is that of Gibrat's law. Named after economist Robert Gibrat, this law states that the expected growth rate for a firm is independent of its size. Early empirical studies (Hart and Prais 1956, Hymer and Pashigian 1962) provided confirmation of this law for firms in the US and UK. However, it was shown also that although average growth rates may not differ with size, smaller firms had a much higher variance in growth rates, and a higher probability of failure than did larger firms. Subsequent, more careful, investigation demonstrated that Gibrat's law held only for firms which were

sufficiently large (Hall 1987, Mansfield 1962). Evans (1987a, 1987b) found that firms which were smaller tended to have higher growth rates but these smaller firms also have a higher probability of failure; young firms also had both higher growth rates and higher failure rates. These results concerning size and age also held when one of these variables was held fixed and the other tested. Shortly after Evans' work, Bates (1989), however, suggested that the results concerning failure were somewhat misleading or exaggerated because many of the small firms that were reported as having failed consisted of "individuals with small periods of intermittent self-employment" (Bates 1989:6).

Lucas (1978) explains the size distribution of firms based on managerial talent: managers tend to oversee the operations of firms which are about as large as they can handle. The size distribution of firms corresponds to the distribution of managerial talent among managers. This is the distribution which will maximise output. Somewhat related to this idea is the Jovanovic model (Jovanovic 1982). In this model, as firms learn more about their capabilities, firm behaviour and size change over time. Those firms which are successful and adjust their capability estimates upwards tend to expand output while those which are less successful and revise their capability estimates downwards tend to contract output or close their business. Over time survivors acquire precise estimates of their



capabilities; younger firms have less precise estimates of their capabilities and thus their growth is more variable and their closure rates higher.

With regard to the present study, two observations merit comment. First, the applicability of these results to developing countries is unclear.

Gibrat's law and its various modifications and qualifications are derived from empirical observation, not from theoretical considerations; it is thus uncertain whether these empirical regularities would appear also among firms within developing countries. On the other hand, if Jovanovic's argument and model is indeed correct, it would seem that this would be applicable also to developing countries and might lead us to expect similar empirical regularities within developing economies.

Second, if these relationships between firm size and age and expected growth and failure rates hold also in developing countries then this would have implications for micro-finance lending programmes and poverty reduction strategies. It would suggest that impact is maximised for enterprises that are the smallest and the youngest, for these are the enterprises with the highest expected growth. However, the results would also suggest that these smallest and youngest enterprises have the highest failure rates, so that the owners of these enterprises, and those who lend to them, must be willing to bear relatively high risk. In any case, if these or other empirical regularities hold among micro-enterprises in

developing countries, the discussion above suggests that MFIs should be aware of the age and size distribution of their target clients when designing loan programmes and strategies for poverty reduction.

## 2.3 Assistance to Micro-enterprises and the Informal Sector

### 2.3.1 Classification of Assistance

Section 2.1.2 reviewed the development of perceptions about the informal sector and interventions to assist micro-enterprises until the early 1990s. By that time, there seemed to be a general consensus amongst economists, policy-makers, donors, and practitioners of economic development that it was beneficial to provide assistance to micro-enterprises. The debate in the 1990s shifted to the best way of providing assistance. Section 2.3 reviews the different types of assistance provided to micro-enterprises and summarises the debate about which is the best.

As a starting point, it is helpful to review several different methods of classifying micro-enterprise assistance. By the late 1980's, USAID was considered the largest donor to these development programmes. In 1989, USAID undertook a major evaluation of its assistance to micro-enterprise programmes. This evaluation covered 32 programmes in 18 countries. As part of the evaluation report (Lieberson 1989), USAID acknowledged the heterogeneity of micro-enterprises and the diversity of their needs, and found it helpful to classify its assistance into three broad approaches, as follows:

1. Enterprise Formation Approach: This represents a focus on the lowest level who are very poor or economically disadvantaged and who want to start a business. Assistance usually takes the form of a community development programme designed to overcome the social and economic constraints that prevent the poor from becoming entrepreneurs. These programmes tend to have a high cost per beneficiary;

2. Enterprise Expansion Approach: The goal of this approach is to improve the performance of existing micro-enterprises. This approach usually relies on a minimum of inputs (usually only credit, although sometimes limited technical assistance and training) to reach a large number of firms at a relatively low cost per beneficiary;

3. Enterprise Transformation Approach: This approach strives to graduate larger clients up and out of the informal sector. It is more costly per beneficiary than the other approaches, because it requires more technical assistance and training.

The USAID report discusses differences in approaches to credit in these three approaches. Within the enterprise expansion approach, the report mentions a 'minimalist' model that enables micro-entrepreneurs to increase their sales and income and, in some cases, to generate new jobs via short term working capital loans. This is called a 'minimalist' model because it only provides credit and no other support services. The 'minimalist credit' approach is further discussed in Section 2.3.2.

In summarising this evaluation exercise for USAID, Lieberman (1989:2) states:

The study found that the enterprise expansion approach, which provides short-term working capital loans and minimal technical assistance and training, is the least costly method of reaching the largest number of beneficiaries. When the problems faced by micro-enterprises go beyond just credit, USAID has much less knowledge of how to deliver cost-effective technical assistance and training.

While the study was able to examine certain cost factors such as the cost per beneficiary reached, Lieberman (1989) points out that they did not analyse the benefits of these programmes and much more effort is needed to examine benefits from the different approaches if appropriate

cost benefit comparisons are to be made. The report concludes with a concern that:

The needs of the vast majority of micro-enterprises cannot be satisfied merely by providing small working capital loans. USAID needs to learn how to use other approaches to reach entrepreneurs who need inputs other than working capital and those located in less densely populated areas (Liebersohn 1989:7).

In a paper focussed on donor strategies that could assist poor women in developing countries, McKee (1989) classifies assistance to micro-enterprises into three broad categories:

1. Area-focused: Focus on a target population in a specified area. These are often holistic programmes;
2. Sector-focused: Focus on enterprises in a specific sector or industry. These often try to build vertical and horizontal linkages;
3. Function-focused: These often try to provide a missing function or input such as credit, training, technology, marketing, etc.

She acknowledges that these are often not clearly distinguishable classifications and that various forms of assistance may sometimes be combined. However, regardless of the category, McKee (1989) indicates that lack of access to capital is often a serious constraint in developing economies and that most programmes to assist self-employment and micro-enterprises include a credit component. She also expresses concern

about the lack of evaluation and impact analysis making it very difficult to compare different strategies and approaches.

During the late 1980s and early 1990s, there were many debates about which was the best strategy and which objectives were the most important. In a relatively early overview of efforts to assist enterprise development in rural areas, Harper and Shailendra (1988) express concern about efforts at enterprise formation in rural areas. They had noted a number of failures in their review of case studies.

It would be wrong to suggest that everyone in a given community, rural or urban, has the potential to go into business successfully, and many so-called entrepreneurship development programmes have failed because they have been based on the implied assumption that entrepreneurship is for the majority (Harper and Shailendra 1988:5).

In response to the debate about which is the best way to assist micro-enterprises, Mahajan and Dichter (1990) propose a new enterprise assistance classification scheme and argue that the approach in each situation needs to be tailored according to the objectives and context. They argue that there is no single best approach for all situations and the best strategy for each situation depends upon certain independent variables. In examining the variables in each context, they suggest an examination of four broad areas: a. level of development of the area, b. characteristics of the target group, c. nature of the industry or sector, and d. types and sizes of enterprises. Within each broad area, they mention a number of sub-variables. However, when looking at the level of

development of an area, they pay special attention to the extent to which financial markets function in the area. They are especially concerned that “it is generally true that local sources of credit are inadequate to provide finance for investment in micro-enterprise development” (Mahajan and Dichter 1990:10).

The classification scheme proposed by Mahajan and Dichter (1990) has the following broad categories:

1. Missing Input Strategies: Examples of missing inputs include credit, training, technical assistance, technology, infrastructure, market development, and organisational development. These strategies assume that there is one major missing input and that enterprises can be best assisted by providing this input in an efficient manner. Credit is the most commonly supplied missing input provided in micro-enterprise assistance;
2. Integrated Strategies: These strategies are often focussed on a specific target population and they integrate various inputs to help a specified group of people or enterprises. Although there are many possible combinations of inputs, some commonly integrated combinations of inputs include:
  - a. Credit, training, and social services

- b. Management training and technical assistance
- c. Credit, training and marketing development
- d. Credit, training and industry sub-sector linkages;

3. Systemic Intervention Strategies: These strategies focus on changing the way systems operate such that micro and small businesses can increase output and profits. Some examples include policy changes, changing legal and regulatory frameworks, changing financial markets, large sub-sector approaches and linkages.

Mahajan and Dichter express concern about the ability of enterprise development strategies to alleviate poverty.

Enterprise development as a strategy for poverty alleviation is a relatively recent phenomenon and there is not clear evidence yet that it works. What is increasingly becoming clear is that the poor require special support in order to become successful entrepreneurs (Mahajan and Dichter 1990:9).

Lassen (1991) introduced the concept of a poverty lending strategy as a distinct form of micro-enterprise credit. A poverty lending strategy is identified as any approach that targets small loans to the poorest of the poor on grounds of equity. A poverty lending orientation assumes that broad target group definitions of micro-enterprises fail to reach the most marginal and that only targeted programmes, many of which have income oriented qualifying restrictions, can effectively reach the poorest. A poverty lending approach also assumes more than just financial inter-mediation and there is some form of socioeconomic support. Lassen



(1991) describes poverty lending as the provision of “credit and savings with a big socioeconomic plus” (Lassen 1991:2).

Some of the other practitioners (Martinez 1990, Reed and Befus 1992) of the late 1980s and early 1990s promoted an enterprise transformation strategy. They felt small working capital loans to micro-enterprises as were being pushed by the ‘minimalist model’ did not have the capacity to generate economic growth and argued for enterprise transformation lending which is “the provision of credit and services which assists micro-enterprises to increase their assets and productivity to a level similar to that of small businesses in the same economic activity, and thereby increasing their sales, income and number of employees” (Reed and Befus 1992:2).

Transformation lending is viewed as making larger loans which:

- change the means of production and increase productivity
- increase sales sufficient to support new employees
- change the relationship between the business owner and his or her employees
- increase assets
- increase specialisation.

Martinez (1990) viewed the lack of enterprise formation lending as the 'grey area' in micro-enterprise development. He felt there was a major lending gap and the lack of these larger transformation loans kept many micro-enterprise workers in poverty and did not allow them to become part of the formal sector. Since formal sector banks were clearly not interested in making these kind of loans, he called on NGOs and other specialised micro-finance lenders to fill the gap.

Reed and Befus (1992) were careful to distinguish their definition of transformation lending from programmes that focussed on graduating businesses into the formal sector or helping businesses with legal incorporation. These programmes require many different inputs beside lending and "achieving these results requires vastly different levels of cost and effort in different countries, which makes it difficult to use across the board measures" (Reed and Befus 1992:3).

While many early practitioners of micro-enterprise development seemed to focus mostly on the provision of credit as expressed in the literature cited in Section 2.3.1 above, several academics expressed concern over a single input, credit only strategy, for example, Tokman indicates that:

There is always the attraction of the missing piece strategy that is, to identify a single constraint which, when removed, will allow more productive and profitable livelihoods for the beneficiaries. At the micro level the most common missing piece identified for direct assistance is credit. Access to capital is a key factor affecting the low incomes of the informal producer, but other significant constraints must be recognized, such as access to skills and more dynamic markets. Because of this, what is required is a series of measures that will be

mutually reinforced. Policy interventions are necessary components of a more comprehensive package (Tokman, 1989:20).

According to Henk (1990), small enterprise development must be examined using a holistic and multi-disciplinary approach and research is needed to address the complexity of the sector. He feels that single input programmes suffer from a narrow focus and an inadequate analytical framework.

### 2.3.2 Minimalist Approach

Despite the concerns of some observers about single input strategies for micro-enterprise assistance, during the 1990s a minimalist model of micro-credit became the dominant form of assistance to micro-enterprises. A minimalist approach is viewed as providing small short-term working capital loans to a large number of existing micro-enterprises (enterprise expansion approach mentioned in Lieberman 1989) in a financially sustainable manner. This approach is characterized by relatively high real interest rates (Hulme and Mosley 1996) which allow micro-finance institutions to become sustainable. Also, in using a minimalist approach, costs are minimized because there are generally no training or technical assistance services provided to clients. Training and technical assistance are considered

unnecessary because micro-entrepreneurs are viewed as being able to wisely manage small amounts of capital.

The benefits of this approach include the ability to reach a large number of clients in a financially sustainable manner. A minimalist approach is also often characterized by an avoidance of impact evaluation or cost benefit studies (Harper and Finnegan 1998, Hulme and Mosley 1996, Nubler 1996) because of the costs and difficulties collecting data, difficulties in measuring benefits and the difficulties in proving causality. In a major book on micro-finance, Rhyne and Otero (1991) put forth the major arguments for the minimalist approach, which they call 'a financial systems' approach. This book includes a discussion of why impact assessment and the measurement of benefits from micro-enterprise loans is not desirable.

In applying such an approach, the focus of evaluation is on the efficiency of the lending institution as measured by rates and trends in sustainability, repayment and cost per borrower. Proponents of a minimalist approach generally claim that this is the best way, if not the only way, to build a financially sustainable micro-finance institution that does not need on-going subsidies (Rhyne and Otero 1991).

This section reviews the development of the minimalist approach to micro-credit. It should be noted that such an approach may be accomplished

either with individual loans or with group loans using peer group solidarity guarantees. Regardless of individual or group methodologies, the important issue in a minimalist model is the efficiency of the lending methodology in making loans and achieving high repayment rates (Rhyne and Otero 1991).

Hulme and Mosley (1996) indicate that the work of economists at Ohio State University, which they call the 'Ohio School', on informal financial markets influenced the development of a minimalist model of micro-finance. The 'Ohio School' was strongly opposed to any kind of subsidized or targeted credit (Adams, Graham, and von Pischke 1984, Meyer 1989). They were mostly concerned about the sustainability and efficiency of credit institutions. According to Meyer:

The perception of unsatisfied demand for loans and an inadequate supply of funds from the banking system has led to policy makers, often in conjunction with donors, to develop a strategy in which increasing the supply of loans was expected to lead economic activity. These inputs and services are provided in an integrated package by a government agency or an NGO. Because of these policies and programs, a few select borrowers have enjoyed a one-shot increase in liquidity, but viable institutions have not been built (Meyer 1989:123).

In acknowledging the development of new types of financial institutions serving micro-enterprises, the economists at Ohio State University suggest that they should try to copy the general approaches used by informal lenders, rather than formal banks or the State sponsored development finance institutions of the 1960s and 1970s (Adams, Graham, and von Pischke 1984, Meyer 1989).

Chandavarka (1989:95) indicates that:

The success of institutional lenders in dealing with micro-businesses is strongly correlated to the extent to which they replicate the desirable features of the informal credit markets (e.g. flexibility, and credit related to personal appraisal and net worth, rather than collateral and cash flows).

Adams and Fitchett (1992) seem to extend the boundaries of informal finance when they define informal finance as consisting of any lending or savings transactions outside the regulation of a central monetary authority or a central financial market authority. This definition of informal finance - external to the family- includes NGOs, credit unions, cooperatives, leasing companies, pawnshops that may provide credit to micro-businesses and even money-lenders. They argue that micro-enterprise lending by these kinds of institutions, whether unregulated or semi-regulated, will not be effective unless they reduce transaction costs by using minimalist and character-based approaches similar to moneylenders. However, they express a concern that this will not happen "...until large amounts of external donor funds are no longer available to them" (Adams and Fitchett 1992:21).

In arguing for a minimalist approach to micro-enterprise lending, a number of researchers noted the high proportion of working capital provided to micro-enterprises by the savings of the owner as well as by informal loans from family and friends (Adams and Fitchett 1992, Chandavarka 1989, Liedholm and Mead 1987, Meyer 1989). In all studies, informal loans and savings from these internal sources account for more than eighty percent

of the financing used by micro-enterprises. If the supply of capital for micro-enterprise lending is to be increased by donors, they argue that the micro-lenders should use informal lending approaches and there does not appear to be a need for any other services.

The growth of minimalist micro-credit in the 1990s was partly supported by the lack of evidence that micro-enterprises could be effectively graduated from the informal sector to the formal sector. Programmes aimed at enterprise graduation by providing credit and other services were not seen as successful and this further aided those who argued for a minimalist approach. A review of ten lending programmes in Latin America by Kathy Stearns (1991) indicated that only 1.8 percent of clients had graduated to the formal sector.

According to Meyer (1989:128), "Data on graduation rates are sparse. However, most program evaluations, if they mention the concept at all, fail to provide much evidence. The lack of data suggests it might not really be that important a performance indicator in actual practice."

In a review of micro-enterprise and small enterprise lending for the World Bank, Webster (1991:59) indicates that:

whereby micro-enterprises are envisioned as seed-beds for small and medium firms, little empirical evidence exists as to (i) whether a significant number of micro-enterprises actually do grow and become organized, small firms; (ii) the rate at which such graduation occurs and (iii) the best measures of bringing about such transformations.

In addition to the lack of evidence on successful enterprise graduation, other evaluators were commenting that a minimalist approach seemed to be the most effective way of helping the largest number of micro-enterprises. In his review for USAID, Lieberman (1989) noted the success of enterprise expansion programmes using a minimalist credit approach. While noting the lack of evaluation studies about different models of assistance, Berger (1989) concludes that minimalist approaches seemed to be able to help the largest number of poor women. Also, in a review of 16 micro-credit programme evaluation reports for UNDP (United Nations Development Program), Ashe and Cosslet (1989) conclude that efforts at training have not been very effective and that minimalist approaches to the provision of working capital seem to be the most effective way to help micro-enterprises. Ashe and Cosslet (1989:97) write:

There are many millions of informal sector businesses and small firms in developing countries and, of these, only a small percentage keep records or have been formally trained in what are considered the indispensable tools of running a business. This indicates the viability of informal management and credit mechanisms.

In a review of micro-credit programmes funded by the Ford Foundation, Tendler (1989) also noted the lack of programme evaluations and cost-benefit studies. However, she noted that the most successful programmes all used a minimalist approach.

The dominance of a minimalist approach to micro-credit was also aided by the lack of evidence that training or technical assistance services were



very effective in helping micro-enterprises expand or develop. In a review of training and technical assistance schemes, Harper (1989:187) concludes that there are “very few programmes which can really be said to have been a success, in that the additional earnings of the beneficiaries exceeded the cost of the programme.” He indicates that credit provision in the form of working capital loans may be the only really effective form of assistance to micro-enterprises. Rudkins (1990) also does not see much impact from efforts to teach micro-enterprise book-keeping or financial management skills.

Tendler (1989) and Nubler (1996) indicate that a single input approach such as minimalist credit may be the most effective approach to micro-enterprise assistance because of their relative simplicity to execute by intermediary institutions such as NGOs. Integrated approaches may not succeed because they are too complex for the implementing institutions to deliver effectively.

Although Berger (1989) and Lassen (1991) had criticized a minimalist model as potentially excluding the poorest potential micro-entrepreneurs, Malhotra (1992) reviewed the major poverty lending schemes and concluded that most of them were using minimalist approaches. She did not see conflicts between effective poverty lending and a minimalist approach to credit.

As the 1990s progressed, however, there were more critical evaluations of minimalist credit models. The major criticisms related to the lack of evidence that working capital loans actually increased productivity and incomes on a sustainable basis. In arguing for the importance of helping micro-enterprises to develop the use of appropriate technology to improve productivity, Jeans, Hyman and O'Donnel (1990:15) conclude that "technology upgrading is often essential in achieving a sustainable productivity increase in businesses, rather than just shifting employment and income from one producer or seller to another." They express concern that the focus on minimalist credit without improvements in technology and productivity will not lead to sustainable increases in income. There is also some emerging evidence that working capital loans provided to a large number of micro-enterprises in a specified area could result in saturation and displacement of other micro-enterprises. This tendency is noted by Hulme and Mosley (1996) and by Harper and Finnegan (1998).

In commenting on the prevalence of minimalist micro-credit, Harper and Finnegan (1998:63) conclude their review with a concern that:

There is also some evidence that the damaging effects of market saturation are beginning to out-weigh the advantages of replacing money-lender loans with institutional micro-credit. Repayments of loan principal and interest may continue, and group pressure can ensure that members repay, even if they are worse off than before as a result of their borrowing. The actual impact on the poorest people may turn out to be negative, long before any evaluation of the institution or even an open-ended study reveals that anything is wrong.

### 2.3.3 Holistic Christian Approach

IDH identifies itself as a Christian organization. It is part of the Opportunity International Network (OI) which is also identified as Christian. Both IDH and the Opportunity International Network indicate in their mission statements that they are motivated by “Jesus Christ’s call to serve the poor” (Opportunity Network 1997:2). What is this call and how is it related to economic development and micro-finance? In section 2.4, the Christian motivation for micro-enterprise assistance, and specifically a holistic approach to this assistance, is developed. This section explores the features of a holistic Christian approach to micro-enterprise development. Within the micro-enterprise assistance classification schemes described in Section 2.3.1, the holistic approach would be considered an integrated approach combining micro-enterprise credit and other financial services, with training and the development of Christian values.

Enterprise Development International (EDI) and the Opportunity International Network (OI) are both Christian organisations which are exclusively dedicated to micro-enterprise development. EDI describes its purpose as “demonstrating God’s love by enabling the poor to free themselves from poverty” (EDI 2001:1). OI describes its mission as “being motivated by Jesus Christ’s call to serve the poor” (Opportunity

International Network 1997:2). In its long-term vision set forth in 1997, OI describes three primary goals:

1. Outreach: We will provide loans to a cumulative total of two million poor families, with an overall arrears rate of no more than two per cent, over the next five years;
2. Quality: We will create a Network that is considered to be one of the top three leaders in the global micro-finance community;
3. Impact: We will empower poor clients in such a manner that they become agents of transformation in their own communities.

The impact goal appears to be where OI expresses its holistic Christian vision. OI explains this goal, as follows:

In addition to promoting the transformation of a single client or group of clients, the goal also incorporates a vision for the transformational impact clients can affect in their own communities. While we have much to learn in this area, we believe it is fundamental to realizing our mission and to fulfilling our motivation to follow Jesus Christ's call to serve the poor. Also, we believe that our own transformation and that of our donors is central to achieving this vision (Opportunity International Network 1997:4).

Over the past several years, OI has worked to develop definitions and measurement tools to explain what they mean by transformation and transformational development. While recognizing that there are many different definitions and viewpoints, OI has defined transformational

development as “a deeply rooted change in people’s economic, social, political, spiritual and behavioral conditions resulting in their enjoyment of wholeness of life under God’s ordinances” (Getu 2000:1).

Similar to EDI’s goal of setting people free from poverty, OI also views transformation as being related to freedom. OI states that “the whole-person view of transformational development is about setting people free from poverty, injustice, deprivations, bondage, and moral corruption and helping them become relatively prosperous and better people” (Getu 2000:2).

In developing these views on transformational development, OI does not want to sacrifice the goals of financial efficiency and financial sustainability espoused in the minimalist approach as discussed in Section 2.3.2. OI states that “in our view, the twin goals of transformational development are financial excellence and biblical transformation that result in the establishment of freedom, the creation of opportunities and the shaping of healthy character among the poor” (Getu 2000:2).

It is also necessary to consider what specific actions characterize a holistic Christian approach to micro-finance and to differentiate this from a minimalist approach. In a survey of OI Network members, including IDH in

Honduras, the following list of transformational activities practised by OI affiliates was developed (Getu 2001):

1. Training clients on management and business topics
2. Training clients on leadership and values formation
3. Training of loan officers and other key staff on transformation issues
4. Bible studies for staff and clients
5. Annual transformation conference for staff and clients
6. Transformation advisor or pastor hired to work with loan officers and clients
7. Linkages with churches
8. Linkages with social service agencies
9. Publications on values and other transformational topics
10. Support clients in lobbying governments and politicians
11. Budget allocations for specific transformational work
12. Trust bank discussions on HIV/AIDS and other health issues.

In the survey, OI also asked affiliates about activities they would like to see undertaken on a global basis to support their transformation work. The most often cited answers were:

1. Develop standardized impact measurement tool and indicators
2. Share experiences and successes between countries
3. Share best practices and case studies between countries

4. Seminars and training on transformation for managers and boards
5. Raise funds to help implement new transformation programmes
6. Facilitate exchange visits between countries to share experience.

Whilst OI has a goal of being financially sustainable, the survey pointed out some concerns over the cost of transformational activities in view of pressures on local affiliates to achieve sustainability and even profitability. A number of local affiliates mentioned cost pressures as constraining their ability to undertake holistic transformation. As summarized by Getu (2001), there is debate as to whether sustainability and transformation are incompatible or whether they are in fact inseparable in that transformation enables sustainability and profitability. As discussed in Section 9.4, balancing financial sustainability and holistic transformation activities are an issue for further research and debate.

## 2.4 Christian Motivation for Micro-enterprise Assistance

In section 2.3.3 the activities of a holistic approach to micro-enterprise assistance were described. In this section the Christian motivation for such assistance, and particularly a holistic approach to such assistance, is developed.

While on earth, Jesus proclaimed the Kingdom of God. Much of His work on earth involved announcing the arrival of God's Kingdom. Through His actions and teachings, He demonstrated that God's Kingdom is broader than the forgiveness of personal sins. The kingdom of God was to transform the whole of human life. He showed that:

...we are also reconciled to other human beings and to the creation through the establishment of this new Kingdom. Jesus did not present forgiveness from God as an experience that could be separated from reconciliation with people, but rather demonstrated that the Kingdom of God encompasses the rule of Christ over every area of life. Forgiveness from God has to be demonstrated through our activities, as we work for right social and economic relationships (Bussau and Samuel 1998:13).

Jesus announced one of His primary missions on earth as helping the poor and needy. This is set forth in Luke 4:18 " ...because he has anointed me to preach the gospel to the poor. He has sent me to proclaim freedom for the prisoners and recovery of sight for the blind, to release the oppressed, to proclaim the year of the Lord's favour." From these statements, it is clear that Jesus' ministry was not just about preaching the forgiveness of



sins, but included also dealing with issues and structures that made people poor, sick, weak and vulnerable in this world.

In announcing the kingdom of God, he provided healing and instruction to the poor, to his followers, and to all in the crowds. And in his teaching, he again and again challenged the rich to provide for the poor. He tells the rich young man to sell everything he has to give to the poor and then to follow him (Mark 10:17-31). In the parable of the Rich Man and Lazarus, the fault of the rich man was his living in luxury without having provided for the beggar Lazarus (Luke 16:19-31). In another parable he warns the rich who hoard an abundance of possessions (Luke 12:13-21). We see clearly Jesus' challenge to provide for the poor. And yet, throughout, it is a renewed relationship with God which will empower the generosity and concern required for this provision: "With man this is impossible, but with God all things are possible" (Mark 10:27). True reconciliation with God will change the whole life of man.

Jesus cared about the whole person, both the spiritual and physical needs of people. He is concerned about making people whole. As a result, His approach to ministry may be called "holistic".

Jesus calls for His disciples and followers to share in His work of bringing about God's Kingdom. In following Jesus, this work includes manifesting a special care and concern for the poor and needy.

This is evident in many of Jesus' teachings and parables including the beatitudes (Luke 6) and the stories of the Good Samaritan (Luke 10), the Great Feast (Luke 14), and the Rich Man and Lazarus (Luke 16). This special solidarity with the poor is particularly evident in Matthew 25: 31 to 46 where Jesus explains how people and nations will be judged according to "whatever you did for one of the least of these brothers of mine, you did for me" (Matthew 25:40). Jesus instructed his disciples and followers to serve others. This is expressed by Bussau and Samuel as:

...the primary call of Christ's followers was not a call to conversion but, far more than that, it was a call to discipleship-a call to model the same kind of servanthood that Christ exemplified. The disciples were to be servants of God and serve as the Son of Man had served: by making whatever resources they possessed- skills, economic resources, time, and energy -available to enable others to be fulfilled (Bussau and Samuel 1998:16).

God's concern for poor people, economic justice and access to productive resources is also evident throughout the Old and New Testaments. This concern is powerfully and frequently expressed in the Law given to the nation of Israel in the books of Leviticus and Deuteronomy. The gleaning laws (Leviticus 19:9-10) required that part of the harvest be left for those in need and thereby made provision for the poor. However the law also dealt with social structures that contributed towards poverty. The economic thrust of the Law was aimed at preventing the poor from being

exploited and being made poorer. Much of the Law was intended to make sure each family had its own land and resources which they were to manage for the benefit of themselves and the entire community of Israel. If families had difficult times and had to sell their land or other productive resources, or even had to sell themselves into slavery, the Law dealt with measures of fairness and protection so they would not be exploited (Deuteronomy 15: 1 -15).

Exploitation and loan sharks were common during Biblical times as well as today. The Bible calls loan sharks 'moneylenders'. They are accused of being greedy and exploiting people in need. In Hebrew, the word for moneylender and usury are the same (Thurman 1996). Exodus 22:25 and Nehemiah 5:7 warns against usurious moneylenders and greedy exploitation of those in need.

The Law included provisions in which the debts and slavery of fellow Israelites were to be canceled in the seventh year. According the Bussau and Samuel,

...the emphasis is not that the debts of the poor were canceled, but rather that the people of God were responsible to rescue them from their debt. The responsibility of the rest of the community was to provide for the poor in such a way that they would not lose their place within society. And those with resources carried the responsibility of using those resources to provide for those who had fallen into poverty (Bussau and Samuel 1998:10).

Deuteronomy 15: 12 -14 even requires that the slaves released in the seventh year "...were to be liberally provided with flour, wine, and

livestock, with the presumed intention of facilitating a return to sustainable self employment” (Belshaw 1997:7).

God instructed the Israelites to lend to each other as needed. This probably included loans for assets and supplies needed for production and enterprise. Deuteronomy 15:7-8 states that “if there is a poor man among your brothers in any of the towns of the land that the Lord is giving you, do not be hard hearted or tightfisted toward your poor brother. Rather be openhanded and freely lend him whatever he needs.”

God was also concerned about long term poverty and the Law included a Year of Jubilee every fifty years. In the fiftieth year, all land reverted to the family that originally owned it. (Leviticus 25:10) This was designed to prevent the long-term loss of productive assets and multi-generation cycles of poverty within families. The Year of Jubilee is based on the concept that God owns everything and the people of nation of Israel were stewards for Him. This is set forth in Leviticus 25:23 -24 “The land must not be sold permanently, because the land is mine and you are but aliens and my tenants. Throughout the country that you hold as a possession, you must provide for the redemption of the land.”

This concept of stewardship starts with God’s creation of the world in Genesis. Genesis 1:27 -28 states that:

So God created man in His own image, in the image of God he created him; male and female he created them. God blessed them and said to them, "Be fruitful and increase in numbers; fill the earth and subdue it. Rule over the fish of the sea and the birds of the air and over every living creature that moves on the ground."

Along with being created in the image of God, there is a responsibility to look after and care for God's creation. This stewardship responsibility is set forth in Genesis 2:15: "The Lord God took the man and put him in the Garden of Eden to work it and take care of it."

According to Belshaw,

Genesis 1:28 is obviously to be read along with Genesis 2:15. Human domination over nature both has a creative and enhancing theological sense; human beings are God's partners in achieving the potential productivity which was an innate feature of the original creation. The twin injunction 'to work' (change and develop) and 'to take care of it' seem to capture entirely the central meaning of the term 'sustainable development' (Belshaw 1997:6).

When Israel refused to obey God's law, the prophets warned them of their wrongdoing and of God's judgement if they would not mend their ways. Other than idolatry, there is perhaps no wrongdoing against which the prophets so strongly express the Lord's anger as that of social injustice and the exploitation of the poor.

God warns the house of David, through Jeremiah:

Administer justice every morning;  
rescue from the hand of his oppressor  
the one who has been robbed,  
or my wrath will break out and burn like fire  
because of the evil you have done-  
burn with no-one to quench it (Jeremiah 21:12).

In announcing judgement on Jerusalem and Judah, Isaiah declares:

The Lord enters into judgement against the elders and leaders of his people:  
“It is you who have ruined my vineyard;  
the plunder from the poor is in your houses.  
What do you mean by crushing my people  
and grinding the faces of the poor?”  
declares the Lord, the Lord Almighty (Isaiah 3:14-15).

Later in Isaiah it is made clear that religious practices will pass unnoticed by God if issues of injustice have not been addressed (Isaiah 58).

These judgements and warnings are echoed and reinforced by Isaiah, Jeremiah, Ezekiel, Amos, Zechariah, throughout the history of both the northern and southern kingdoms of the Israelites, through their exile, and after their return. God identifies with and shows compassion for the “the alien, the fatherless, the widow,” all who are powerless and defenceless.

God is concerned not only about individuals, but about the entire nation. God delivered Israel out of slavery and bondage in Egypt and throughout his interaction with Israel he identifies himself as “the Lord, who brought you out of Egypt.”

Later, while in exile in Babylon, hope of overcoming the suffering and exploitation experienced by the people of Israel is expressed by several of the Old Testament prophets. This includes Ezekiel who longed for a time when:

The trees of the field will yield their fruit and the ground will yield its crops; the people will be secure in their land. They will know that I am the Lord when I break the bars of their yoke and rescue them from the hands of those who enslaved them (Ezekiel 34:27).

Also, Isaiah expressed similar sentiments in Isaiah 65: 21- 22:

They will build houses and dwell in them; they will plant vineyards and eat their fruit. No longer will they build houses and others live in them; or plant and others eat.

Both of these prophets were praying for a period of peace and prosperity in which the people of Israel would not be exploited, but were able to work and be productive. The prophets reaffirm that God is concerned about freedom and prosperity and that he shows a special concern for the poor and oppressed.

The economic protections of the Old Testament Law applied primarily to the Israelites. Aliens and strangers could be enslaved and charged usurious interest (Leviticus 25: 44-46, Deuteronomy 23:20). This changed in the New Testament with the teachings of Jesus. The parable of the Good Samaritan in Luke 10 indicates that help should be provided to all people, not just Jews. Also, the Great Commission in Matthew 28: 18-20 applied to people of all nations. The Christian Church quickly grew beyond Israel during the first century and encompassed many peoples and nations. In many parts of the world, the early Christian Church was known for alleviating poverty and sharing possessions with those in need (Acts 4:32 - 34).

As the Apostle Paul ministered to churches around the world, he began to apply principles of sharing between communities in different places. Funds were transferred between countries to churches with great material needs.

Paul explained these principles in 2 Corinthians 8:13-15:

Our desire is not that others might be relieved while you are hard pressed, but that there might be equality. At the present time, your plenty will supply what they need, so that in turn their plenty will supply what you need. Then there will be equality, as it is written: "He who gathered much did not have too much, and he who gathered little did not have too little."

Belshaw points out that the meaning of equality here is disputed concerning whether it applies to equality in income and assets as well as consumption. According to his interpretation, the passage seems to imply continued variation in production and income (gathering) while the equality is in consumption (having). The passage, he concludes, "...indicates increasing inequality of production and income, the condition for which is achieving equality of consumption. A clear linkage can be traced to the principles of responsible stewardship of God's resources temporarily entrusted to the 'tenant'" (Belshaw 1997:8).

Although the church of the New Testament is marked by charity, sharing and generosity, there is a clear sense of obligation to work. Jesus illustrates this with the parable of the talents in Matthew 25. The servant who was given the least amount of capital was criticized for not working and not being a good steward of the assets entrusted to him. The owner expected each person to use their talents and skills fully.



Paul also expected those in the early Christian church to work and to be productive. In Ephesians 4:28, he indicates that “He who has been stealing should steal no longer, but must work, doing something useful with his own hands, that he may have something to share with those in need.” Paul also criticized those who were idle and did not work in 2 Thessalonians 3: 6-11. He points out that “we worked night and day, labouring and toiling so that we would not be a burden on any of you. We did this, not because we do not have a right to such help, but in order to make ourselves a model for you to follow.” He then goes on to say that “...if a man will not work, he shall not eat.” It is also interesting to note that Paul himself is a micro-entrepreneur, working as a self-employed tentmaker.

Several major Christian theological conferences and declarations have affirmed that productive creativity were part of God’s plan for creation and that poverty and exploitation are evils that God did not intend. Section 5 of the Lausanne Covenant states that:

Because mankind is made in the image of God, every person regardless of race, colour, culture, class, sex or age has an intrinsic dignity because of which he should be respected and served, not exploited (Lausanne Covenant 1974: Section 5).

Likewise, the Oxford Declaration on Christian Faith and Economics states that:

Economic production is not only necessary to sustain life and make it enjoyable; it also provides an opportunity for human beings to express their creativity in the service of others. In assessing economic systems, we must consider their ability

both to generate and distribute wealth and income justly. Poverty was not part of God's original creation, nor will poverty be part of God's restored creation when Christ returns. Poverty and powerlessness are an offence to God and a denial of His loving provision for His creatures, except when they are a direct result of His judgment (Oxford Declaration on Christian Faith and Economics 1990:2).

From the law throughout the history of Israel and the prophets, to the proclamation of Jesus, the early Church and subsequent Christian confession we see the following principles emerge: that God created man to be creative and productive, to be a steward of creation; that God commands that provision be made for the poor; and that God hates oppression and injustice against the poor, powerless and defenceless.

The preceding Biblical material clearly shows God's holistic concern over both spiritual and physical aspects of life. Where does micro-enterprise assistance fit into this picture of God's will for the economic relations of man?

Micro-enterprise assistance, through small business loans, enables entrepreneurs to acquire assets in order to form a business. Successful businesses provide income for the entrepreneur and his or her family, thereby alleviating poverty. In this way, micro-enterprise assistance is one way in which God's charge to serve and provide for the poor is to be carried out. And it provides assistance in a way that allows the poor to maintain their dignity: because clients are repaying loans with interest,

they are not accepting hand outs and are therefore improving their lives by their own efforts.

Furthermore, unlike many forms of aid, micro-enterprise assistance not only alleviates poverty but also enables productivity to rise. The creation of these small businesses creates work and employment and results in the production of useful products and services for poor communities. Micro-enterprise assistance enables some of the world's poorest people to best steward their talents and resources in productive and creative activity.

However, an approach to micro-enterprise assistance which is Christian and holistic goes yet further beyond this in fighting poverty and maintaining economic justice. What specifically is the nature of a holistic Christian approach to micro-enterprise development?

In section 2.3.3 it was noted that various micro-enterprise assistance organisations identify their approach as holistic. These organisations, in addition to providing lending services, also provide a variety of non-lending services including business and management training, spiritual guidance and counselling, training in leadership and values formation. It was noted also that there were two opposing views regarding the value of such non-lending services:

One perception says that sustainability and transformation do not go together. It is argued that transformation involves expenses in non-economic activities that

bring down profitability and hence sustainability. The other perception says that the two are inseparable as transformation promotes accountability, honesty, efficiency, discipline, productivity, and stewardship that are critical to profitability and sustainability (Getu 2001:16).

With an understanding of poverty shaped by Jesus' teaching, God's law, and the Christian confession, it is this second view that is embraced in a holistic approach to micro-enterprise assistance. First, by providing training and advice to help entrepreneurs run successful businesses, the likelihood of success and business sustainability is increased and entrepreneurs develop useful skills to bring with them throughout life. That a loan is made and eventually repaid with interest does not guarantee a successful business or poverty reduction. Training can provide an important bridge between the provision of loans and the reduction of poverty.

Second, for an organization motivated by "Jesus Christ's call to serve the poor," a holistic approach to micro-enterprise assistance is necessary because of Jesus' understanding of service. As noted above, Jesus cared about the whole person, both the physical and spiritual needs of people. True service will therefore seek to provide support both physically and spiritually. To provide for only the physical needs of people while neglecting their spiritual needs would be to ultimately leave them in poverty.. Jesus asks "For what does it profit a man to gain the whole world but lose his soul?" (Matthew 16:26). The hope expressed in the writings of the Old Testament prophets concerned not only an end to Israel's exile

in Babylon but eternal blessing and peace with God. In the Encyclical Letter *Rerum Novarum*, Pope Leo XIII writes concerning associations organized to aid workmen in poverty:

Speaking summarily, we may lay it down as a general and perpetual law, that workmen's associations should be so organized and governed as to furnish the best and most suitable means for attaining what is aimed at, that is to say, for helping each individual member to better his condition to the utmost, in body, mind, and property. It is clear that they must pay special and principal attention to piety and morality, and that their internal discipline must be directed precisely by these considerations... What advantage can it be to a workman to obtain by means of a society all that he requires, and to endanger his soul for want of spiritual food (Pope Leo XIII 1891:35-36)?

Through linkages with churches, assistance from pastors, and Bible studies for clients, spiritual transformation can be accomplished. As noted, this is an end in itself and, as will be discussed below, this spiritual transformation can also go some way in better accomplishing poverty reduction.

The third reason why a holistic approach is important is that, by training clients on leadership and values formation and by the spiritual renewal accomplished by other transformational activities, entrepreneurs are better equipped to apply their incomes and abilities in ways that will contribute to the prosperity of the entire community. As Wright (1999:40) notes "if increased income is spent in the cinema or at the tea stall, or on alcohol, there is no increase in wealth or reduction in poverty." Entrepreneurs may temporarily rise above poverty levels only to return to poverty because of crime or indulgent spending. True poverty reduction will require the transformation of the person and the entire community. Values formation

will promote accountability, honesty, discipline and industriousness.

Training in leadership and values formation may subsequently empower clients to fill leadership roles in the community and oppose exploitation, crime or corruption. Spiritual transformation will engender a concern for the well-being of the entire community and a willingness in turn to serve others. The proclamation of the prophets warns us that there can be no true prosperity for a community under the yoke of moral corruption.

Though unquestionably imperfect and often sadly insufficient, a holistic approach can go some way toward the transformation of communities.

In summary, a holistic approach to micro-enterprise assistance can provide the benefits of poverty reduction and employment creation of a minimalist approach; but, in addition, a holistic approach can, through training, better the likelihood of poverty reduction; through pastoral care, provide also for the spiritual needs of the poor; and through values formation, leadership training, and spiritual renewal, potentially transform and help prosper entire communities.

### REVIEW OF MICRO-FINANCE IMPACT MEASUREMENT RESEARCH

#### 3.1 Overview

Sections 2.1.2 and 2.3 reviewed the development of interventions to assist micro-enterprises in developing countries. These interventions have led to the growth of specialised development finance institutions called micro-finance institutions. Through a process of learning, experimenting, and continuously seeking better answers, micro-finance institutions have shown that the “option of lending at the bottom end of the capital market is not a financial black hole” (Hulme and Mosley 1996:206). Successful micro-finance institutions have tended to follow a minimalist model which focuses on the scale of outreach and the financial sustainability of the micro-finance institution itself. This has led to research and experimentation on techniques to reduce the unit costs of serving poor customers. However, there is very little research on the economic or social impact of micro-finance interventions (Boomgard 1991, Farbman and Steel 1992, Liedholm and Mead 1989, Morduch 1999).

This Chapter reviews research on the economic impact of assistance to micro-enterprises in developing countries until 2002.

Is access to credit a “basic human right” (ILO 1984) and “the most important single weapon against rural poverty” (IFAD 1982)? Or is providing access to credit “a mere fifth wheel on the coach, an input of only marginal relevance to the enhancement of poor people’s welfare” (Adams and von Pischke 1992)? For Adams and von Pischke (1992) of the ‘Ohio School,’ these new innovative micro-finance institutions constitute the same approach and same problems as the earlier state sponsored development finance institutions and they represent a ‘déjà vu’ experience of inefficiency, subsidy, and targeting. However, Hulme and Mosley (1996:7) criticise the Ohio School for “failing to produce data concerning the social rate of return and poverty reduction impact of the institutions they seek to expose.”

A significant portion of the literature on micro-finance impact research describes various problems and obstacles encountered. These problems are often used to argue against undertaking such research. Section 3.2 summarises and categorises the various issues and problems encountered in micro-enterprise impact research. As described in Chapter 5, the research design of this study attempted to overcome or minimise the various problems encountered in the literature. In planning the research design, impact assessment tools developed by six international micro-



enterprise development organisations were reviewed to determine how these organisations dealt with the various problems and obstacles. This study also included a review of all impact assessment materials published by donor organisations such as USAID, the Department for International Development (DFID) and the Inter-American Development Bank.

Within the practice of economic development, social cost benefit analysis has been widely used and much has been written about it (Dasgupta, Sen and Marglin 1972, Mishan 1988, Scott 1976). However, it should be noted that none of the practitioner tools reviewed in this study uses a comprehensive approach to social cost benefit analysis. Several organisations acknowledge the existence of social cost benefit analysis, but indicate that it is not useful in their situations. Although social cost benefit analysis is not being applied by micro-finance practitioners, it is interesting that each organisation studied uses some definition of income or value added as the primary indicator of economic impact. This primary focus on income-oriented measurement may be due to the pervasive influence of the social cost benefit literature. The most significant application of social cost benefit analysis to micro-enterprise impact research is Peter Kilby's (1985) study comparing six micro-finance institutions in five countries. This study is discussed in Section 3.3 and it is replicated and expanded using data from this current study in Chapter Eight.

Investment in micro-finance institutions is often justified on the basis of poverty reduction. However, there is very little quantitative research on whether micro-loans reduce poverty. The most significant research on poverty reduction was done by Hulme and Mosley (1996) and Gulli and Berger (1999). In the first of these studies the impact of twelve micro-finance institutions in seven countries was assessed; they developed the concept of an “impact possibility frontier” which is discussed in Section 3.4. Their approach to studying the impact of micro-loans in reducing poverty is replicated with data from this study in Section 6.5. Gulli and Berger (1999) reviewed a number of impact studies from Latin American micro-finance institutions to determine their impact in reducing poverty.

### 3.2 Issues and Problems

As indicated in Chapter 1, there is a lack of research on the impact of assistance provided to micro-enterprises. Much of the micro-finance literature argues why it is not possible to make meaningful measurements (Boomgard 1991, Holt 1991, Kobb 1997, Lieberman 1989, Marsell-Carstens 1995). Nubler (1996) conducted an extensive review of efforts

to measure the impact of training provided to micro-entrepreneurs. She concludes that “the lack of methodologies, measurement criteria, and indicators has been used as an excuse for not evaluating interventions in the informal sector” (Nubler 1996:2). This section outlines the major issues and problems encountered in micro-enterprise impact research.

### 3.2.1 Selecting Dependent Variables to Measure Impact

Except for the Kilby (1985) study which is discussed in Section 3.3, social cost benefit analysis has not been used in the evaluation of micro-enterprise assistance programmes. According to Boomgard (1991), Lieberman (1989), and Kobb (1997), this is due to the difficulty of measuring benefits. In a stocktaking report of all USAID programmes to assist micro-enterprises, Liberson points out that “we were able to identify the cost per dollar loaned and cost per beneficiary reached, but data were rarely available on benefits of micro-enterprise programs” (Lieberman 1989:7).

Nonetheless, Kilby concludes that “acknowledging the extreme delicacy of the exercise is not to write-down ex-post benefit analysis as our most powerful analytic tool for understanding what works and does not in the field of development” (Kilby 1985:8). In applying social cost benefit analysis, Kilby states “benefit measures most generally are all net

additions to national income” (Kilby 1985:5). In developing a measurable proxy for increased national income that can be applied at the level of a micro-enterprise, Kilby reasons that increased value added (turnover less cost of goods purchased) is the best dependent variable to use in measuring the impact of loans (Kilby 1985).

Wright (1999) argues that income measurement is not adequate. He is more concerned about reductions in poverty and increases in well being and quality of life. Wright defines absolute poverty in terms of minimum consumption levels rather than income levels. Wright states that “on a simple money determined level, if increased income is spent in the cinema or at the tea stall, or on alcohol, there is no increase in wealth or no reduction in poverty” (Wright 1999:40). He indicates that many micro-enterprise owners experience transitory poverty where they may temporarily rise above poverty levels only to return to poverty when unfortunate events happen such as illness, crime, or natural disasters. He views the greatest concern of many self employed poor people to be income diversification and income security to help overcome the various shocks (Wright 1999) that cause and deepen poverty. Wright views income measurement alone as too simplistic. “It is time to move away from the preoccupation with measuring income to focusing on improving net wealth and income security” (Wright 1999:44).

Although Haggblade is concerned about quality of life and increased well being of poor people, he concludes that “income offers a stepping stone to improved nutrition, education, political awareness, and empowerment” (Haggblade 1992:11). In developing a simplified approach to impact assessment, Haggblade uses a definition of “returns to labour” as the primary dependent variable to measure impact. The “returns to labour” measurements used by Haggblade are similar to value added calculations, except for deducting fixed overhead costs from standard value added calculations. Haggblade’s “returns to labour” approach is similar to the methodology used by Liedholm and Mead (1987) in analysing productivity as replicated in Section 6. 3 of this study. The justification for Haggblade’s focus is:

To retain the evaluation focus on raising the welfare of the poor, the system revolves around measuring returns to labour. Employment and returns to labour are the key to measuring progress of the very poor, who do not have landholdings or physical assets, and who have only their labour to sell (Haggblade 1992:16).

While acknowledging the limitations of an income focus and the complex factors which offset poor people’s ability to escape poverty, the impact studies conducted by Hulme and Mosley (1996) use family income and changes in family income as the primary dependent measurement variables. These were deemed easiest to measure and valid for making cross-country comparisons.

As part of this study, impact evaluation systems and tools developed by donor organisations (USAID, DFID, Inter-American Development Bank) and six international micro-finance organisations were reviewed. Each of these organisations uses some form of income measurement as the primary dependent variable for measuring impact. The tools developed by USAID tend to focus on both enterprise net income and household income. The Inter-American Development Bank (1989) has a primary focus on enterprise net income. CARE (1991) uses a returns to labour approach along the lines developed by Haggblade. In a comparative study of four NGO impact assessment systems, Hymen and Dearden (1998) conclude that Appropriate Technology Incorporated and Technoserve focus on value added measurement, while Freedom from Hunger and Save the Children give more attention to enterprise net income. They also conclude that these four NGO impact assessment systems “did not measure household income separately from the income generated by the enterprise assisted. Changes in household productive assets or material goods consumed were not usually addressed” (Hymen and Dearden 1998:262).

The AIMS (Assessing the Impact of Micro-enterprise Services) tools developed by USAID have extensive guidance for measuring household assets and changes in household consumption patterns. It is argued that household expenditure patterns can be a good proxy for income data (USAID 1987). These tools are intended to be used when it is not possible

to obtain reliable income data or where there is a need to corroborate reported income data. These household consumption surveys are particularly useful when measuring impact on poverty reduction. In these cases, household consumption can be related to poverty line targets; enterprise level measurements where the enterprise may only contribute part of total household consumption will not allow such conclusions about poverty to be drawn.

Employment creation has also often been considered as an dependent variable to measure impact. However, most researchers have dismissed this as too difficult to measure (Boomgard 1991, Liedholm and Mead 1990, Nubler 1996). Issues of part-time and unpaid employment as well as family labour generally make changes in employment difficult to detect and measure accurately. There is also evidence that micro-entrepreneurs tend to increase unpaid family labour before they will hire paid employees (Liedholm and Mead 1987) or they attempt to achieve a constant income with less labour time (Boomgard 1991, Liedholm and Mead 1987). This is especially true of enterprises operated by poor women (Downing 1991, McKee 1989). Hulme and Mosley (1996) also did not find much employment creation in their cross country impact studies of twelve MFIs and detected the same tendency to use more family labour. They concluded that:

...the impact of borrowing on employment is a natural consequence of the technology in which that borrowing is embodied. Across the sample, the

technical change induced by borrowing was not dramatic, and neither as a consequence has been its influence on employment outside the family. Further examination of hiring patterns of different types of enterprise confirms the impression that rising levels of output financed by loans were initially accommodated by increased demands for family labour only, with significant hiring of non-family labour carried out only by larger enterprises (Hulme and Mosley 1996:102).

The comments of these researchers confirm the direct experience of this study applied to the smallest and youngest micro-enterprises that employment changes are not an easily measurable dependent variable for micro-enterprise research.

### 3.2.2 Data Gathering and Data Accuracy

Most micro-enterprises do not maintain financial records and enterprise cash flows are often commingled with household activities (Boomgard 1991, Fisseha and Davies 1981, Liedholm and Mead 1990, Nubler 1996, Rudkins 1990). As a result, data gathering and data accuracy are very difficult issues in micro-enterprise research. As indicated in Section 3.2.1, income and profit oriented measures seem to be the preferred dependent variables in measuring financial performance. However, the ability to use these indicators is dependent upon being able to obtain reasonably reliable financial data from micro-entrepreneurs. Many researchers have not been able to rely on the accuracy of answers to financial questions and have had to use other workable indicators. Nubler (1996:100) indicates that “monetary indicators were not precise enough or sensitive enough to



measure effects at the enterprise level. Therefore, a set of workable indicators was developed. These were estimated change in sales, change in estimated number of customers and change in number of workers.”

There are two general approaches to gathering financial data from micro-entrepreneurs when there are no meaningful financial records available. These are simply accepting the memory recall of the entrepreneur and structured interviews in which the interviewer constructs financial data together with the micro-entrepreneur based on a series of detailed questions. However, even constructing financial data in this manner depends upon the memory, knowledge, and honesty of the interviewee.

Boomgard (1991) mentions a Michigan State University study in Sierra Leone in which researchers compared a one shot retrospective interview based on memory with data that had been collected twice weekly during the same year. “The magnitude of difference was 30 to 40 percent and entirely unpredictable” (Boomgard 1991:2).

Kobb (1997) critiqued a major impact study done in Tanzania. This study attempted to compare one off memory recall questions about micro-enterprise net profit with data developed from a structured interview in which net profit was calculated by the interviewer based on questions addressed to the micro-entrepreneur. This comparison resulted in a

systematic bias in which the calculated net profit was generally higher than the net profit recalled. In analysing this bias, Kobb commented that “this difference may arise either from interviewees systematically under-declaring direct income or from interviewers failing to account for several of the entrepreneurs’ costs” (Kobb 1997:43).

Several researchers have also noticed a bias in which micro-entrepreneurs tend to understate net income (Boomgard 1991, Kobb 1997, Liedholm and Mead 1987). Possible reasons for this are summarised by Kobb (1997:44): “interviewees may understate income due to a fear of taxation or fears that the disclosure of information may encourage free loading or loan requests from relatives or friends.” These fears overcome the wish to impress the interviewer with an answer that is perceived to be desired.

Some researchers believe that micro-entrepreneur recall may be more accurate on questions about turnover and physical volumes of goods sold rather than monetary net income calculations (Farbman and Steel 1992, Liedholm and Mead 1990). Kilby (1985) and Liedholm and Mead (1987) used these broader measures of value added and total returns to family labour rather than trying to obtain net income measurements in their respective cross country studies. A similar focus on value added estimates was used in this study as discussed in Chapter 5.

### 3.2.3 Attribution and Control Groups

Most micro-enterprise impact research studies mention the need to use control groups to help address the issue of attribution. How do we know the loan recipients would not have done as well or better without the loan? Although Kilby (1985) mentions the general desirability of using control groups, he was not able to use them in his cross-country application of social cost benefit analysis. However, he felt that the use of control groups tended to understate the net benefits accruing to loan recipients because: (1) loan recipients often had loan diversion benefits which were not reported in surveys and (2) control groups generally did not include closed enterprises which tended to overstate control group results in comparison with groups of loan recipients which included closed firms. As a result, Kilby did not believe that control groups were needed in his research. The issues raised by Kilby (1985) with regard to using control groups in social cost benefit analysis are further discussed in Section 8.6.

In his review of numerous micro-enterprise impact studies, Boomgard (1991) felt the omission of any counterfactual case was one of the major consistent weaknesses. He concluded that “we should encourage loud throat-clearing whenever impact is discussed in a pompous fashion, without consideration of a counterfactual

case” (Boomgard 1991:5).

Haggblade (1992) sees the need for a counterfactual case in micro-enterprise impact research, but he considers control groups to be too expensive and time consuming. Haggblade proposes the use of a proxy estimate instead of a control group. He suggests using economic growth rates or changes in GDP per capita as typical proxies. These kinds of proxies could also be applied to a particular region or sub-sector of the economy to achieve more accuracy. “This short-cut avoids the expense of sampling non-project firms” (Haggblade 1992:18).

Even when control groups have been used in micro-enterprise impact research, there is often a dispute about whether they have been used properly or whether they have provided meaningful information. In reviewing two impact studies in Indonesia, Holt (1991) disputed the conclusions with respect to women loan recipients in the study. Part of her dispute involved the manner in which the control group of non-loan recipients was developed. As a result, she viewed these studies as flawed.

Likewise, Kobb (1997) critiqued a large impact study in Tanzania. In this study, the control group was selected from micro-enterprises in the same areas as those who had not taken loans. Kobb concluded that “what remained as a control group were those which either failed to meet the

project conditions or which were uninterested in project support. In essence, the dregs” (Kobb 1997:43). He believed the control group was not comparable to the client group because the control group members had self-selected themselves out of the project. The client group was more highly motivated and this motivation may have been more important than loan support in analyzing results. “The problem of screening is modeled by the inclusion of an entrepreneurship variable. By definition, this variable is invisible and unmeasured. Ignoring entrepreneurship statistically biases the result to the extent entrepreneurship is correlated with project participation” (Kobb 1997:46).

To avoid the problem of self selection in project participation, it has been suggested that control groups be selected from similar areas or villages in which the MFI does not operate (Goldmark and Rosengard 1985, Inter-American Development Bank 1989, USAID 1991).

However, this does not fully solve the problem with self-selection if other MFIs are operating in that area.

Other researchers have suggested using control groups drawn from clients who have been approved by the MFI, but are still waiting for their first loan. These clients would evidently exhibit similar characteristics as loan recipients and would avoid the problem of self-selection (Gaile and Foster

1997, Hulme and Mosley 1996). This approach to control group selection was used by Hulme and Mosley (1996) wherever possible.

We generally measure project benefits in terms of the difference between the material welfare of borrowers and that of a control group of non-borrowers, selected to be as similar as possible to the borrower group except for the characteristic of not having received a loan from a case study institution; wherever possible we selected as a control group people who had been approved for, but who had not yet received, a loan from the credit institution under scrutiny (Hulme and Mosley 1996:14).

There are still possible distortions if the control group includes people who are borrowing from other MFIs in the same area.

However, even when control groups are selected in an unbiased manner, there is an issue about whether they provide unbiased information in comparison with client samples. As indicated above and in Section 8.6, Kilby (1985) believed that control groups understated the benefits achieved by loan recipients. However, Kobb reached the opposite conclusion. While he noted the tendency for all micro-entrepreneurs to understate income due to concerns about taxes and free loading claims by friends and relatives, he believed that loan recipients had a more trusting and honest relationship with the lending institution doing the surveys. As a result, he believed the loan recipients did not understate income to the degree that the control group did. "Beneficiaries may therefore have not understated income to the degree their control group counterparts did. This itself would cause higher income [increases] to be reported for the project sub-sample" (Kobb 1997:45).

### 3.2.4 Limited Time Sequences

In reviewing micro-enterprise research priorities, Liedholm and Mead (1991) and Farbman and Steel (1992) both commented that there is lack of longitudinal time series data in micro-enterprise research. This was partly due to the early stage of the industry. However, it is also due to the fragile nature of micro-enterprises and their propensity to change, move, or close down. As a result, MFIs often do not have a long-term relationship with clients and they cannot do much longitudinal data collection. During the 1990s, there has been more emphasis on gathering baseline data in initial client loan applications to facilitate future research (Hulme 1997, Inter-American Development Bank 1989, Sebstad and Chen 1997).

The limited time sequence of available data has made it particularly difficult to project future income benefits in impact research. As discussed in Chapter Eight, Kilby (1985) did not project any income after the survey date. Also, Kilby used a straight-line assumption as the rate of projecting income growth from loan disbursement date (baseline) to the survey date. Kilby assumes that income grows at an even rate over the time period from the loan disbursement date to the survey date. To replicate Kilby, similar conventions were used in this study. However, these conventions

are not consistent with the concept of credit as an accelerator which is discussed in Section 6.6.

Hulme and Mosley (1996) felt that income reached a plateau after the loan and this level of income should be extrapolated into the future. However, since they did not perform any social cost benefit analysis, it is not clear how they would do such projections. They also noted the limitation that they could only measure income growth since the client's last loan. They did not have any base line data for clients to measure income growth since the client's first loan. This is viewed as a limitation of their research study.

Haggblade also struggled with similar limitations due to the lack of any longitudinal data. As a result, he also measured income benefits only to the survey date. However, he acknowledged that "since assisted firms may well continue their expanded operations after the project ends, the more correct procedure is to project these flows on into the future and discount them to determine the present value of the anticipated future income gains" (Haggblade 1992:23).

Other organisations have made arbitrary decisions on projecting future income benefits. Technoserve (Dichter 1989) used ten years of future income projections in their impact evaluation system. For most of the NGO impact assessment systems, the issue of future income projection is left



to the judgment and experience of the researcher in view of the specific context. All the systems reviewed expressed the need for more longitudinal data collection.

### 3.2.5 Other Measurement Problems

Other measurement problems may be caused by an inability to measure the impact of changes in the local and national economy and how these economic changes affect micro-enterprises. For example, if there are adverse economic changes, borrower performance and repayments may be adversely effected. Declining repayment rates would negatively impact MFIs. However, even in these situations, it is possible that there would be a positive impact in reducing poverty as borrowers may be better off with the loan than others who did not have access to loan capital.

It is also difficult to measure the impact of an increased supply of MFI loan capital. Increased supply of loan capital for micro-enterprises may induce more micro-enterprises to borrow and enter the market. This may either increase the exit rate of existing micro-enterprises or reduce their scale and income levels. This is the saturation effect described by Harper and Finnegan (1998) and it is especially likely if the total market demand for goods and services produced by micro-enterprises is declining. It is important, therefore, to understand and monitor over time the trajectory

of enterprise product demand and/or the composition and performance of the local economy within which the loanees are operating.

### 3.3 Social Cost Benefit Analysis

Since the late 1960s, the economic literature includes a number of works on the application of social cost benefit analysis to development projects (Dasgupta, Sen and Marglin 1972, Hansen 1978, Mishan 1988, Scott and MacArthur 1976). Social cost benefit analysis compares the economic benefits accruing to the economy with the economic costs of delivering these benefits. The benefits are computed after netting out the effects of price distortions caused by Government actions and market imperfections or failures. Shadow prices are used to adjust actual prices for the effects of Government actions, for market imperfections or failures, and for externalities. Incremental increases in national income are generally the focal point in attempting to measure benefits. Since these benefits are computed at shadow prices reflecting the priorities of a society, this type of measurement is called 'social' cost benefit analysis. Social cost benefit analysis is contrasted with financial cost benefit analysis as the latter uses only actual price levels.

The application of social cost benefit analysis permits the comparison of cost benefit ratios and internal rates of return for different types of development initiatives within a country as well as in making cross-country comparisons. These techniques are intended to help policy makers and donors select projects with the highest 'real' return to society or to justify less financially efficient investments based on incremental social benefits achieved.

There is considerable criticism of social cost benefit analysis as a decision making tool. These criticisms relate to factors excluded from social cost benefit analyses such as intangible effects and indirect effects and to assumptions that must be made in applying social cost benefit analysis. Some of these key assumptions are selecting shadow prices which may be different from market prices and selecting a social discount rate/social opportunity cost of capital when calculating a cost-benefit ratio. This Section and Chapter 8 review and replicate the social cost benefit work done by Kilby (1985) and is not intended to broadly critique the overall application of social cost benefit analyses in development economics.

There are few significant applications of social cost benefit analysis to micro-finance. The most significant multi-country study is "Searching for Benefits" (Kilby 1985), published under the sponsorship of USAID. This

research attempted to apply social cost benefit analysis techniques to six micro-finance institutions operating in five countries and to make comparisons between them. The data used for this study were derived from external project evaluations done in 1982 and 1983. These evaluations were not specifically designed for the application of social cost benefit analysis and data needed was absent in some cases. As a result, researchers had to go back into the field to get supplementary data to apply the desired analysis.

The six micro-finance institutions are:

1. PFP (Partnership for Productivity ) -Upper Volta
2. UNO (Northeast Union of Assistance to Small Business) - Brazil
3. IDH (Institute for Honduran Development) - Honduras
4. DDF (Dominican Development Foundation) Micro-enterprise - Dominican Republic
5. DDF (Dominican Development Foundation) Solidarity - Dominican Republic
6. FDR (Rural Development Fund) - Peru

To facilitate cross-country comparisons, all data were converted to U.S. dollars at current official exchange rates in effect for each country. A range of economic benefits was estimated (minimum case, maximum case,

and most likely case) based on a general set of assumptions as outlined below. For each case, increased enterprise value added as derived from client surveys was the starting point for measuring economic benefits. This rationale is summarised in Kilby's introduction, as follows:

The standard of performance from which all conclusions derive is not related to such conventional norms as loan default levels or the economic viability of the project in terms of interest income coverage of administrative costs. Rather, the measuring rod is net economic benefits or additions to national income. This choice of measuring rod permits us to achieve two secondary objectives. First, we can compare the benefit- cost ratios of small-scale enterprise projects with aid programs in other sectors. Second, it provides us with an opportunity to develop a specially tailored approach to small enterprise, which might serve as a standard methodology for evaluating all such projects in the future (Kilby 1985:-x-).

Since the increase in value added as a result of the loan would overstate national economic benefits if employees in jobs created by loans had left a previous job and were not replaced or if they were replaced by less productive workers, an appropriate reduction must be made to the increased value added for the lost output which is called the opportunity cost of labour.

Although Kilby notes that many economists consider the opportunity cost of labour to be zero in poor countries with high unemployment, for purposes of his research:

A review of the empirical studies support two limited generalisations: (1) during the peak agricultural season the opportunity cost of labour is well reflected in the rural wage rate, and (2) male heads of micro-enterprise typically have job opportunities elsewhere. For the rest, albeit each case will vary with local circumstances, we believe the applicable mechanism is that of a "ladder of job step up." This approach holds that the job vacated by a new micro-enterprise employee is taken over by someone previously engaged in a less productive activity, and so on down the ladder until the final person is vacating a state very close to pure unemployment (Kilby, 1985:10).

Two polar benefit estimates, a minimum case and a maximum case, are constructed. Both of these polar estimates start with an estimate of increased enterprise value added resulting from the loan. The following conventions were used in both minimum case and maximum case estimates:

1. Client surveys were carried out from one to four years after the loan. It is assumed that the increased income (value added) did not materialize immediately at the time of the loan, but happened gradually. Therefore, it is assumed value added increased at a uniform straight-line rate from the time of the loan attaining the magnitude reported at the time of the survey.

2. The estimation of increased value added was not continued beyond the survey date. It was assumed that all enterprises ceased producing benefits at the survey date. It was noted that this is a very conservative assumption since most of the enterprises continue to operate and produce a continued stream of income. Nonetheless, this assumption was deemed justified by the unstable nature of micro-enterprises and the estimation difficulties encountered in extrapolating future income.

In most social cost benefit analyses, future cash flow benefits are estimated for twenty to twenty five years and then discounted to net present value at one or more rates representing the social opportunity cost of capital and/or the real rate of interest. Kilby points out that such income extrapolation is not appropriate for micro-enterprises because they are not stable and very few stay in operation for a long time. As a result, only actual value added was used and no future value added was projected. This assumption is more cautious than more recent procedures used by Hulme and Mosley (1996) which viewed loans as an accelerator to increase income and output which reached a plateau level and then continued at the same level. This concept of credit as an accelerator is further discussed in Section 6.6.

Kilby made the following assumptions in constructing the minimum case, maximum case, and most likely case estimates of economic benefits:

#### Minimum Case Estimate

1. The lower end of all range estimates was used in calculating elements of value added.
2. All labour was treated as having an opportunity cost equal to the informal sector wage rate. This includes labour provided by the owner, family labour, and non-family employees.

3. Training benefits were assumed equal to half the informal sector wage for each new apprentice.
4. No weighting benefits for improvements in the distribution of income were assumed.
5. No external economic linkages were assumed. Net forward and final demand linkages were both assumed to be zero.
6. No consumer benefit was assumed from price decreases or price increases prevented.
7. No economic benefit was assumed from loan diversions.

#### Maximum Case Estimate

1. The upper end of range estimated was used in calculating elements of value added.
2. Only the owner is treated as having a positive opportunity cost of labour. All other paid and unpaid workers were treated as having a zero opportunity cost of labour.
3. Training benefits were equal to half of the informal sector wage rate for each new apprentice.
4. Improved income distribution weight benefits were assumed equal to a premium of 50 percent added to all wage payments.
5. Net final demand linkage benefits were assumed equal to 20 percent of direct value added, less interest paid.



6. Net backward linkages were assumed equal to 70 percent of total purchased inputs, exclusive of those purchases attributable to retail trading firms. This exclusion is because it is assumed that the expansion of retail trading firms does not normally lead to higher national retail sales but to a displacement of less efficient firms and forms of distribution (Kilby 1985: 11).

7. Consumer surplus benefits were calculated at the initial quantity of production times the estimated price reduction plus the additional output times half the price reduction. This is an estimate of benefits to consumers due to lower prices resulting from increased competition.

8. Economic benefits from loans diverted to other uses were assumed to be ten percent of the loans disbursed. This crude estimate had to be made due to the lack of any survey data on loan diversion.

The issue of loan diversion is important in micro-finance. Since loans proceeds are fungible, it is not possible for a lender to monitor if all loan proceeds are used exactly according to the purposes stated in loan documents. It is likely that many borrowers divert some of the loan proceeds to other activities and expenditures that may have a higher marginal rate of return to the family rather than investing all the loan proceeds in the enterprise described in the loan agreements. Some of the common uses to which loan proceeds are diverted include emergencies, repaying other debts (especially to moneylenders), other family income

generating activities which may have higher returns and family rites of passage. It is very difficult to obtain information about loan diversions in client surveys because clients are very reluctant to acknowledge this behaviour.

It should be noted that a consumer benefit was estimated in only two of the six cases reviewed by Kilby. This was in Cases 1 and 5. In both situations, most of the loans were made for the same product and this led to increased competition which caused lower retail prices and increased quantities produced and consumed.

Having constructed a minimum and maximum estimated range of benefits, a most likely intermediate estimate for each benefit sub-component was determined. This was done by:

Bringing into play everything we know about the economy (e.g. unemployment levels, the ratio of intermediate good imports to GDP, movements in consumer income), all the internal evidence from the evaluation report, and the personal opinions of those with direct knowledge of the project to make fine judgments about apportioning causality and about the size of the linkages. The sum of these sub-components is the overall final benefit measure of the project (Kilby 1985:12).

These judgments when applied to the estimated range of benefits resulted in the following estimates for each of the six cases:

Table 3.1: Range of Total Benefits USAID Five Country Study, 1982-1983

(in 1981 US dollars)

Programme	Minimum Case	Maximum Case	Most Likely Case
1. PFP-Peru	82,360	852,900	647,873
2. UNO-Brazil	2,607,035	12,248,358	7,632,039
3. IDH-Honduras	120,781	759,959	385,766
4. DDF Micro-DR	251,781	608,993	557,177
5. DDF-Solidarity-DR	258,011	543,443	543,433
6. FDR-Peru	15,792,000	55,645,000	36,653,000

Source: Kilby (1985: Tables 5, 9, 18, 22, 26, 29).

The most likely case estimate was near the mid-point between the minimum and maximum estimates in Cases 2, 3 and 6. These were all micro-finance institutions which lent to a significant proportion of retail traders and the economic benefits did not include a high level of external economies. In the cases of micro-finance institutions 1, 4, and 5, the most likely estimates are closer to the maximum case in the range. In Cases 1 and 5, this is due to the strong impact of consumer benefits, resulting from a concentration in one industry which led to increased output and lower prices. In Case 4, the maximum case estimate had high levels of direct value added benefits.

In estimating economic costs, the three elements included are (1) administrative expenditures, (2) bad debts, and (3) capital erosion. Kilby (1985:12) notes that economic costs are much easier to estimate than economic benefits. Capital erosion due to inflation is the most variable

economic cost between the six reviewed. In reviewing the impact of external environments for the six projects, it is noted that high inflation “is powerfully detrimental to project performance. It (the problem) arises because governments and micro-finance institutions are reluctant to set interest rate charges that are, at a minimum, equal to the rate of inflation” (Kilby 1985:111).

The varying proportion of capital erosion to total costs is best seen in footnote b to Kilby’s Table 31 which is reproduced as Table 3.2 below. Capital erosion varies from 4 percent to 94 percent of total economic cost.

Table 3.2: Benefit Components as a Proportion of Total Costs (%)

Item	PfP	UNO	IDH	D(M)	DDF(S)	FDR
Direct Value Added <sup>a</sup>	18.1	63.6	33.6	393.8	397.4	51.5
Training Benefit	0.3	1.2	3.6	8.1	-	0.4
Distribution Benefit	10.3	2.8	9.7	42.0	197.8	3.8
External Economies						
Forward Demand Linkage	4.9	10.8	29.0	89.0	76.0	11.0
Backward Linkage	10.4	14.1	31.9	20.9	-	26.6
Consumer Benefit	53.6	-	-	-	140.0	-
Diversion Benefit	4.3	40.2	16.7	-	6.0	12.1
Total Benefit	101.9	132.7	124.5	553.8	817.2	105.4
Total Cost <sup>b</sup>	100.0	100.0	100.0	100.0	100.0	100.0

Notes:

a Wages, profit, interest, rent less labour opportunity cost.

b Capital erosion from inflation accounts for the following proportion of total cost: PfP = 4%, UNO = 34%, IDH = 10%, DDF(M) = 8%, DDF(S) = 14%, FDR = 94%.

Source: Kilby (1985:109, Table 31).

With the estimated total economic costs of each project at 100 percent, Table 3.2 presents the composition of total benefits as a percentage of total costs. It is interesting to note that only the two organisations in the Dominican Republic (DDF-Micro and DDF-Solidarity) had total direct value added benefits in excess of total cost. These two projects also had the highest ratios of total benefits to total costs. In the other four programmes, direct value added benefits are less than total costs. In these four cases, total benefits exceed total costs due to the significant impact of external economies and distributional benefits.

Kilby also compares GDP growth rates with cost benefit ratios. In general, there is not much correlation. It is noted that most of these economies were growing until about 1979 which was followed by a period of stagnation and contraction during which the surveys were done. These economic problems are attributed to the OPEC- generated increases in oil prices which had a recessionary effect on these economies. While UNO in Brazil and FDR in Peru were adversely effected by the economic problems, the DDF programmes in the Dominican Republic and IDH in Honduras did not seem to turn down with their national economies.

In the cases studied by Kilby, most of the micro-enterprises were involved in retail activities. The loans were intended to provide working capital to increase inventory levels such that sales turnover could be increased.

Finally, some important comments must be cited regarding the use of control groups. This results from the question of causality. Kilby questions whether it is "...legitimate to attribute an observed increase in sales over a two or three year period of time solely to the receipt of a loan? Taking the polar case, could it not be that the same increase in sales would have occurred without the loan?" (Kilby 1985:9).

To test this it would be necessary to use a control group, and only measure the differential increase in value added between the loan recipients and a control group. Although theoretically desirable, Kilby does not feel that control groups are a practical option in most cases and he did not use control groups in his study.

As a general rule, control groups are not an available choice. Firms only cooperate with those who demand sensitive information if it is a precondition for a loan or technical assistance. Except under unusual circumstances, entrepreneurs will not agree to serve as a control group (Kilby 1985:9).

In considering the relatively small ratio of total benefits to costs in Cases 1,2,3, and 6 in Table 3.2 (1.02, 1.33, 1.25, and 1.05, respectively) it is necessary to ask whether the use of control groups would have significantly altered these ratios?

Nubler attempts to review prior cost benefit studies as part of her impact evaluation of micro-enterprise training schemes in Africa. She concludes that:

In spite of almost two decades of serious efforts to promote micro-enterprises, few general lessons have emerged. This is due to the almost complete neglect of careful ex post evaluations. The discussion is mainly based on individual project experience rather than on evidence from evaluation studies measuring the impact, benefits, and costs of projects (Nubler 1996:29).

More recently, Morduch (1999) attempts to review empirical cost benefit analyses of micro-finance institutions. However, he concludes that “perhaps the most difficult problem-and the one most relevant from the vantage point of the current debate into micro-finance-is that simple cost benefit calculations fail to provide insight about the relevant counter-factual scenario” (Morduch 1999:1594).

In a study conducted by Khandker (1998) on the incentive group-lending assistance provided by Grameen Bank in Bangladesh, a marginal impact figure estimated in another study (Pitt and Khandker 1998) is used in a calculation to compute a simple cost-benefit ratio. The marginal impact figure of 18 cent increase in household consumption increase for every additional dollar lent to women and 11 cent increase in household consumption for every additional dollar lent to men corresponds to cost-benefit ratios of 0.91 and 1.48 for lending programmes directed at women and men.

### 3.4 Poverty Reduction

Since investment in micro-finance is often justified on the basis of poverty reduction, what evidence is there on the impact of micro-finance in reducing poverty? This was of concern to Hulme and Mosley who introduced their impact study of twelve micro-finance institutions in seven countries with the admonition “that contrary to much recent writing, micro-enterprise and/or small enterprise development should not be equated with poverty reduction. At times the two will coincide but this needs empirical validation and should not be assumed, as is commonly the case” (Hulme and Mosley 1996:108). Before conducting research on the impact of micro-finance in reducing poverty, it was necessary for them to define poverty, how it might be measured and who constituted the poor. Hulme and Mosley (1996) outlined two opposing views of poverty based on whether poverty is largely about material needs or whether it is about a much broader set of needs that permit well being. Although the material needs approach, which usually uses income as a surrogate, is often criticised as being “reductionist” (Chambers 1995), it has the advantage of being measurable and objective (Greeley 1994). The broader view of poverty as developed by Chambers (1995) documents many forms of



deprivation experienced by poor people that cannot be captured by income oriented poverty measures. Many of these deprivations have psychological implications related to a lack of security and lack of control over daily circumstances.

Hulme and Mosley (1996) point out that the definition of poverty is not only analytical, but also has strategic dimensions. An absolute income poverty approach is associated with the concept of moving households from a below poverty line situation to a level above the poverty line. This leads to a focus on 'promotional' (Dreze and Sen 1991) financial services which emphasize credit for income generation and asset acquisition. In contrast, a broader and more holistic view of poverty sees all income levels as fluctuating and believes the dampening of dramatic reductions in income and consumption are the best means to reduce poverty (Wright 1999). This approach sees poverty as transitory and it leads to 'protectional' (Dreze and Sen 1991) financial services that focus on voluntary savings mechanisms, emergency consumption loans, and low risk income generating activities that do not increase risk or indebtedness. Hulme and Mosley (1996) do not see the promotional and protectional strategies as polar opposites competing with each other, but are a matter of relative prioritisation based on the definition of poverty being used. They do not have a pre-defined framework for choosing between the two approaches to poverty and they base the choice on personal values and

judgments about each situation. However, they conclude that “where absolute poverty exists we believe in the primacy of material needs” (Hulme and Mosley 1996:108). As a result, they used an income-oriented approach in this research. In studying the impact of the twelve micro-finance institutions in reducing poverty, they disaggregated the data for clients with household incomes below the poverty line and those with household income above the poverty line at the time of the last loan. This approach led them to the following three general conclusions:

1. Well designed lending programmes can improve the income of poor people and a portion of cases can move from incomes below the poverty line to incomes above the poverty line;
2. The impact of income generating credit in the medium term cannot be understood solely in terms of a promotional model of credit, investment and income;
3. There is clear evidence that the impact of a loan on a borrowers' income is related to the level of income.

With regard to the first conclusion, the starting point in using micro-loans to reduce poverty is the extent to which people with incomes below the poverty line can access loans from micro-finance institutions. Some micro-

finance institutions use strict income and asset criteria to ensure that loans only go to poor clients. Although these targeting procedures impose extra costs on the lender, those institutions with poverty targeting procedures had a larger percentage of clients below the poverty line than open access schemes in the Hulme and Mosley (1996) study. However, the study also mentioned several open access schemes that had a majority of clients below the poverty line through well designed policies such as tapered interest rates and extremely small initial loan sizes which served to screen out richer clients. They also noticed tendencies toward serving a richer clientele as pressures for financial sustainability increased.

“Institutions seeking to provide income generating credit to the poor while pursuing their own financial viability will have a tendency to concentrate on the upper and middle income poor” (Hulme and Mosley 1996:113).

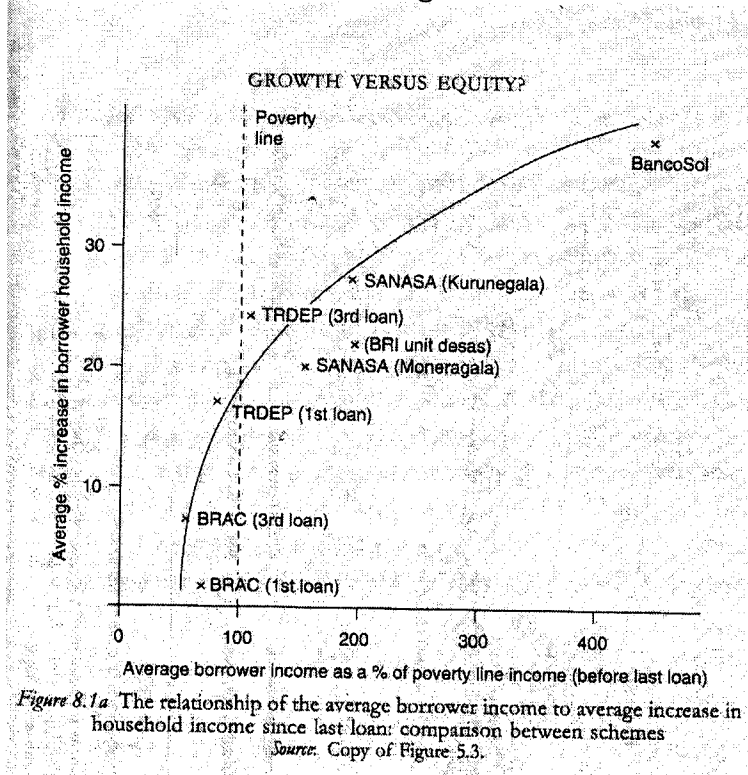
The second conclusion led to the concern that

...this notion of sustained growth in income, production, credit, and investment captures a part of the experience of poor households that borrow, but only a part. The differing abilities of borrowers, their initial economic and social positions and the wider economic environment and its fluctuations ensure that no simple model can explain the complex empirical findings of our research (Hulme and Mosley 1996:108).

The second conclusion also led to further discussion of the vulnerability of poor people to dramatic income reductions caused by various downward mobility pressures and proposes more research on protectional financial services to help poor people cope with these pressures.

With regard to the third conclusion, “this finding should not be unexpected given that those with the higher incomes have a greater range of investment opportunities, more information about market conditions and can take on more risk than the poorest households without threatening the minimum needs for survival” (Hulme and Mosley 1996:109). The empirical data across the twelve programmes led to the modeling of an “impact possibility frontier.” This model shows an upwardly sloping curve when graphing the percentage increase in average borrower household income against the average borrower income as a percentage of poverty line income before the last loan. It can be seen from Hulme and Mosley’s (1996:183) Figure 8.1a (replicated as Figure 3.1 below) that the size of the average percentage increase in income was directly correlated with the average client income in relation to the poverty line across the various programmes.

Figure 3.1: Hulme and Mosley (1996)- The Relationship of Average Borrower Income to Average Increase in Household Income Since Last Loan



Hulme and Mosley also tested to see if this relationship between the percentage increase in income and pre-loan income as a percent of the poverty line applied to clients within lending programmes as well as in comparing averages between programmes. They noted that the impact possibility frontier also applied amongst clients within programmes because the upward sloping relationship repeated itself within most of the schemes. As a result, they concluded “that the existence of this relationship imposes a limit on the extent to which it is possible to increase impact and reduce poverty simultaneously” (Hulme and Mosley 1996:181). In interpreting why the poorest groups generally had less relative income increase from micro-loans, Hulme and Mosley explain that the poor cannot afford to take much risk and they use credit mainly for protectional, non-risk increasing

purposes which sustain family routines and consumption, rather than promotional projects which alter routines and have greater risks.

On such (protectional) projects the rate of return is small; hence the measured impact of our case study schemes on poorer borrowers is, on average, small. Only the better off, by contrast, can afford to take some risks, hence only the better off borrow for promotional purposes such as the purchase of green revolution technology or other capital deepening. Hence only the better off experience the high returns on capital which go with such promotional uses of loan funds, hence the measured average impact of our schemes on them is larger. Needless to say, not every loan to a middle or higher income earner is productive: some loan-supported investments fail. But these failures, in the schemes we have examined, are more than balanced by the successes, with the consequence that measured scheme impact is higher amongst richer than amongst poorer borrowers. This outcome will obviously feed through into borrowers' expectations, and may make it harder to persuade poor people to take the first step on to the credit ladder than to take subsequent ones (Hulme and Mosley 1996:182).

As a further explanation, they noted a high correlation between average loan size and borrower income. Poorer clients took smaller loans to reduce risk. The relationship between loan size and borrower income was tested via regression analysis and was significant at a five percent level in six of the seven programmes studied. This leads to the conclusion that offering very small initial loan sizes is the best way to target the poorest clients and get them to start on the credit ladder. "We argue that the most effective way of targeting credit on the poor was not to apply an explicit means test, but rather to offer very small loans, as these would only be taken up by the poor, would inflict less risk on them and save the lender the administrative cost of targeting" (Hulme and Mosley 1996:195).

While acknowledging the tradeoff between the poverty of persons reached via loan schemes and the average impact per household, the important

issue for Hulme and Mosley is maximising the total impact of micro-finance in reducing poverty. This results in two primary strategic options:

1. Implementing programme design features which move the impact possibility frontier outward; and
2. Taking the impact possibility frontier as a given, but deliberately seeking to attract poorer borrowers and then moving them up the credit ladder at a faster rate of growth.

Programmes which had certain design features seemed to have better financial performance and a higher level of relative impact per household at a given level of poverty. Hulme and Mosley (1996)

discovered a positive correlation between the average impact per household and the institution's financial performance as measured by the levels of real interest rates and loan delinquency. These well performing programmes were viewed as using a strategy of pushing the impact possibility frontier outward. The specific programme design features associated with this strategy are:

- \* Measures to reduce risk via borrower savings;
- \* Measures to reduce risk via better borrower screening;
- \* Measures to reduce transaction costs;
- \* Measures to increase real effective interest rates;

- \* Measures to strengthen loan collection and increase repayment rates;
- \* Measures which remove demand constraints to which borrowers are subject.

Each of these measures affects the quality of the loan portfolio by screening out bad projects. As a result, the average impact per borrower is increased at the same level of poverty. Programmes that use all or most of these features are financially more successful and have a larger economic impact because they have moved the impact possibility frontier beyond programmes that do not have such features. Section 8. 5 includes a discussion of changes made by IDH during the 1980s. These changes by IDH include many of the measures discussed by Hulme and Mosley and these changes had the effect of improving the social cost benefit ratios (increasing impact) by moving the impact possibility frontier outward.

Some researchers have argued that solidarity group lending schemes which use group screening and peer pressure are more successful (Lassen 1991, McKee 1989, Malhotra 1992) because they transfer some of the cost of loan screening and collection from the lender to borrower groups. This helps the lender reduce unit costs and maintain high repayment rates.

While Hulme and Mosley acknowledge the success of many group lending schemes, they conclude “that across sample regressions, finally, confirm that, contrary to the arguments of some recent NGO based work, the



organisation of borrowers in groups is neither necessary nor sufficient for success” (Hulme and Mosley 1996:55). In looking at the loan design measures in relation to loan access for the poorest people, group schemes may restrict loan access to the poorest households and to start-up activities because other potential group members screen out these potential group members with whom they do not want to share risk. Although this group screening process tends to reduce risks and costs for the lender, the proportion of poor households below the poverty line able to get loans is also reduced. Hulme and Mosley (1996:174) conclude that “self exclusion and group exclusion keep the poorest out of group based schemes and thus individualized approaches will be more likely to meet the needs of the very poor.”

Hulme and Mosley do not discuss how MFIs will be able to make very small individual loans to the poorest clients in a financially viable manner. Such loans are generally not profitable for MFIs and there is little evidence of MFIs making these kind of loans in practice.

The second strategy takes the impact possibility frontier as a given, and attempts to maximise poverty reduction by rapidly increasing the proportion of new clients below the poverty line.

This is illustrated by a model which shows the short-term trade-off between maximising poverty reduction and total economic impact. This model is based on reducing the “poverty gap” for clients below the poverty line. This is illustrated by the following formula (Hulme and Mosley 1996: 36)

$$\Delta P = \frac{P}{NP} (w - w') \Delta E$$

$\Delta P$  is the total reduction in the poverty gap (numbers below the poverty line multiplied, for each individual, by the distance that she or he falls below the poverty line) which results from the number of individuals whose employment and incomes are affected by the loan programme, taking into account any persons who directly or indirectly lose employment as a result of the loan ( $\Delta E$ ) and where  $(w - w')$  is the average change in their incomes and  $P/NP$  are the proportion of poor beneficiaries (versus non-poor beneficiaries) of all those to whom loans have been given. If the objective of a programme is to reduce poverty, Hulme and Mosley (1996) argue that the proportion of poor beneficiaries should be raised to as close as possible to one. This would mean that all clients are below the poverty line and represent the poorest groups in society.

Using this formula for reducing the poverty gap and building an illustrative model, Hulme and Mosley show how a lender can theoretically increase

total impact on poverty (defined as a reduction in the poverty gap) and counterbalance the lower average impact per borrower while achieving the same level of total long-term income impact. The poverty gap can be reduced by increasing the proportion of new borrowers below the poverty line and achieving increasingly larger loans in successive loan cycles. They note that this process cannot be accomplished in one loan cycle because the very poor will not be interested in large borrowings that increase risk. The model requires a continual intake of new borrowers below the poverty line and building up loan sizes and borrowers' ability to undertake increased risk through a sequence of multiple increasingly larger loans. Hulme and Mosley (1996) show that several of the micro-finance institutions they studied had done this by maintaining a high proportion of clients below the poverty line and reaching a very large numbers of clients. The poverty gap reduction model used by Hulme and Mosley is applied to the IDH data and the poverty impact of IDH is discussed in Section 6.5.

Pitt and Khandker (1998) examined the impact of micro-enterprise assistance to the poor in Bangladesh provided by Grameen Bank. This assistance included dynamic-incentive group lending and various training and educational services. Using a large sample of households which included household from villages with no access to credit programmes as a control group, various econometric techniques were applied to estimate that household consumption increases by 18 taka for every 100 taka lent

to women and 11 taka for every 100 taka lent to men. However, using more simple comparisons across treatment and control villages, controlling for both household and village level characteristics and not making distinctions by gender, Morduch (1999) finds that this increase in household consumption disappears.

Gulli and Berger (1999) reviewed a number of impact studies from Latin American micro-finance institutions to determine their impact in reducing poverty. They concluded that:

...urban micro-enterprise development programmes may not necessarily reach poor people. Non-targeted micro-enterprise programmes may indirectly reduce poverty through the creation of new employment for poor people and increased spending by wealthier micro-enterprises, but special measures may be needed to reach poor micro-entrepreneurs directly. Conventional micro-credit programmes provide loans to owners of micro-enterprises who are generally less poor than wage-employees in micro-enterprises. The poorest people in the micro-enterprise sector are the sole operators (self-employed) (Gulli and Berger 1999:19).

After considering various MFI options to better reach poorer people including strict targeting, they conclude that “poorer strata of the population might be reached if a broader range of financial services, such as savings and consumer credit, is provided for both wage-employees and the self-employed, and if products are better tailored to client needs” (Gulli and Berger 1999:26). This conclusion supports ‘protectional’ financial services as the best means to meet the needs of the poorest people. Rutherford and Singh (1997) concur with this view based on their work with DFID-sponsored programmes that provided savings services to the poor in urban India.

## CHAPTER FOUR

### HONDURAN ECONOMY AND IDH

#### 4.1 General Economic Situation

This section describes the macro-economic context of the field survey data collected in the period 1989-1992. The later trajectory of the Honduran economy, while of considerable interest (especially to the author), is outside the scope of this thesis which focuses on the choice of methodology for micro-credit impact evaluations.

Honduras ranks amongst the least developed countries in the Western Hemisphere. Although some economic progress was made during the 1970s and 1980s, per capita GNP in 1991 remained low at an estimated \$580 (UNDP 1994:165). Twenty seven percent of the adult population was illiterate and over twenty percent of children under 5 years of age were suffering from malnutrition in the early 1990s (World Bank 1993:222). According to a UNDP study based on 1991 data, Honduras was ranked as the thirty fourth poorest country in the world and the third poorest country in the Western Hemisphere (UNDP 1994).

Throughout the 1980s, the development strategy of Honduras was based on structuralist policies i.e. import-substitution behind high protective barriers and extensive government intervention involving credit subsidies, price controls, tax incentives, and a fixed overvalued exchange rate. As a result of this strategy, manufacturing became inefficient, prices paid in local currency under-remunerated producers of agricultural exports, with

resultant loss of international market share, and open urban unemployment reached more than ten percent in the late 1980s (Economist Intelligence Unit 1994). Despite a protective trade regime and high import tariffs, imports grew rapidly and reached more than forty percent of GDP by the middle 1980s (World Bank 1993). The combination of strong domestic demand for imports and declining exports resulted in growing balance of payments problems during the 1980s. By the late 1980s, the Government resorted to arrearages on external debt, which intensified the pressure on the balance of payments and precipitated increased inflation. By the end of 1989, arrears on external debt amounted to more than \$600 million and the black market exchange rate reached 14 lempira to the US dollar (World Bank 1993). The official exchange rate had been fixed at 2 lempira per US dollar since the early 1960s (IMF 1993).

In early 1990, a new administration took office which was committed to dealing with the economic crisis and to re-establishing Honduras' credibility with the international financial community. The government introduced an economic reform programme in March 1990 aimed at eliminating major macroeconomic distortions, simplifying the regulatory framework, reducing subsidies, and encouraging private sector investment. This stabilization and macroeconomic adjustment programme continued through 1993 with the support of the IMF. By the end of 1992, import tariffs were reduced within a 5 to 20 percent band, price controls were reduced, lending rates were liberalized and credit subsidies were eliminated (World Bank 1993).

As a result of the initial impact of the economic reform measures and the oil shock arising from the Gulf Crisis, real GDP growth fell from 4.3 percent in 1989 to 0.1 percent in 1990. However, real GDP growth resumed to 3.2 percent in 1991 and 5.6 percent in 1992 (Economist Intelligence Unit 1994). The fiscal deficit, which was approximately 8 percent of GDP in

1989 and 1990, was reduced to 3.9 percent of GDP in 1991 and 4 percent of GDP in 1992 (World Bank 1993).

As part of the economic reform measures introduced in 1990, foreign exchange rates were liberalized and the government began to authorize commercial banks to buy and sell foreign exchange at market prices, without reference to central bank exchange rates. The market exchange rate of the Honduran lempira quickly adjusted from the long term fixed exchange rate of 2 lempira per US dollar to approximately 5 lempira per US dollar by the end of 1990. However, the exchange rate remained reasonably stable during 1991 at about 5 lempira per US dollar and the market exchange rate at the end of 1991 approximated 5.4 lempira per US dollar. This relative stability continued during 1992 and the market exchange rate was 5.83 lempira per US dollar at the end of 1992 (IMF 1993).

The economic reforms introduced in 1990 and related devaluation of the Honduran currency, combined with oil price increases caused by the Gulf Crisis, resulted in large increases in inflation. The consumer price index, which increased by about ten percent in 1989, increased by twenty three percent in 1990 and thirty four percent in 1991 (Economist Intelligence Unit 1994). Average annual inflation during the 1980s had been approximately 7 percent (UNDP 1994). However, due to the stabilization of the exchange rate and reduced fiscal deficits, inflation began to subside and the consumer price index increased by 8.7 percent and 10.8 percent in 1992 and 1993, respectively (Economist Intelligence Unit 1994).

According to the ILO, seventy four percent of the urban population and eighty percent of the rural population of Honduras were living below the national poverty line in 1990 (ILO 1994). This represents a significant

increase in poverty since 1980 when forty percent of the urban population and seventy five percent of the rural population were estimated to be in poverty (ILO 1994). According to UNDP, approximately thirty seven percent of Hondurans were living below the absolute poverty line in 1990 (UNDP 1994). This estimate of people in absolute poverty amounted to fourteen percent of the urban population and fifty five percent of the rural population. The ILO and UNDP studies do not explain how poverty was defined or measured.

In an earlier study published by the World Bank, Altimer (1982) carefully defines measures used to estimate the extent of poverty in eleven Latin American countries, including Honduras. Altimer explains that:

the idea of poverty is based in value judgements as to what the minimum adequate levels of welfare and the absolutely essential basic needs are and what degree of deprivation is intolerable. Such judgements consequently imply a reference to some norm of basic needs and their satisfaction makes it possible to distinguish between those who are poor and those who are not. The concept of poverty is essentially normative, and its actual content varies as does the norm of basic needs or welfare on which it depends (Altimer 1982:10).

Altimer reviewed various definitions of poverty, absolute poverty and destitution. He explained that “the absolute poverty lines drawn were based on diet, an estimation being made of the cost of a food basket to cover minimum nutritional needs adequately” (Altimer 1982:40). He carefully developed an absolute poverty line for the eleven countries studied based on the cost of a food basket of minimum nutritional needs in each country. He converted this local cost to US dollars at 1970 prices and exchange rates to facilitate cross-country comparisons. After carefully establishing the absolute poverty line for each country, he concluded that the poverty line should be set at twice the level of absolute poverty. The basis for this conclusion is carefully explained. Based on his study, Altimer concluded that the absolute poverty line for Honduras required an average 77 US dollars in annual consumption per capita. This is an average



comprised of 92 US dollars in urban areas and 71 US dollars in rural areas. He applied his poverty line estimates to income data gathered by the ILO in 1976 and estimated the extent of poverty and absolute poverty as set forth in Table 4.1 below:

Table 4.1: Estimated Extent of Poverty and Absolute Poverty in Honduras in 1976

	Urban	Rural	National
Percent of Population Below Absolute Poverty Line			
Honduras	15	57	45
Eleven Countries	10	34	19
Percent of Population Below Poverty Line			
Honduras	40	75	65
Eleven Countries	26	62	40

Source: Altimer 1982.

#### 4.2 Informal Economy and the Micro-enterprise Sector

Throughout the 1980's, the average annual population growth of Honduras was 3.3 percent (World Bank 1993). This growth rate resulted in a total population of approximately 5 million people in 1991 (World Bank 1993). Of this population, approximately 2.7 million people were more than sixteen years old (World Bank 1993). According to the Economist Intelligence Unit (1994), the economically active population grew from 1.5 million people in 1988 to 1.7 million people in 1992. At the end of 1990, the economically active population was estimated to be 1.6 million people. Open unemployment increased from eight percent of the economically active population in 1988 to more than ten percent in 1992. However, according to the Economist Intelligence Unit (1994:43):

...open unemployment is only the tip of the iceberg of underutilised labour. Rural unemployment is very high. The UN Commission For Latin America and the Caribbean estimates total unemployment (including underemployment) to be about double the rate for open unemployment.

Using these estimated rates, the total number of unemployed and underemployed people in Honduras increased by more than 100,000 people between 1988 and 1992. The economy could not create enough formal sector jobs to meet the needs of an increasing population.

There are no estimates available of the number of micro-enterprises in Honduras or the number of people working in the micro-enterprise sector between 1988 and 1992. However, based on the estimated increase in open unemployment, the estimated population increase, and general survey data from other countries (Liedholm and Mead 1987), the researcher estimates that between 400,000 and 600,000 people were working in micro-enterprises in the early 1990s. This represents between 25 percent and 40 percent of the economically active population.

Based on research in Honduras (Stallman and Pease 1983), approximately 68 percent of the workers in Honduras worked for micro and small enterprises with less than ten workers. They further disaggregated this research in three rural areas of Honduras and found that 95 percent of the workers were employed by informal micro-enterprises with one or two workers.

Recognising the importance of the informal sector and micro-enterprises to the economy of Honduras, USAID commissioned several research projects in 1989 and 1990. The first survey (Nathan 1989) studied one thousand small and micro-enterprises in March, 1989. This survey focussed on urban areas and 68 percent of the respondents were in the capital city of

Tegucigalpa. The objectives of this survey were to determine the growth potential and growth barriers facing these enterprises. Among the most frequently mentioned problems were a lack of access to financing and the low level of demand caused by general economic conditions. It is interesting to note that 25 percent of the respondents indicated that they had received some kind of loan for the business. This is a higher percentage of loan recipients than most micro-enterprise surveys and this may be due to the large proportion of respondents being in the capital city.

With the start of the economic structural adjustment programme in early 1990 as explained in Section 4.1, USAID commissioned a second survey to consider the effects of the economic adjustment policies on micro-enterprises. This was designed as a longitudinal survey attempting to survey the same 330 micro-enterprises in March 1990 and March 1991. The report (Nathan 1991) indicates some of the methodological challenges faced in this kind of longitudinal research due to the mobility and transient nature of micro-enterprises. The report generally concludes that the economic adjustment programme did not have a significant negative impact on these micro-enterprises between March 1990 and March 1991 (Nathan 1991). Average revenues increased by almost 25 percent per micro-enterprise, which is slightly more than the 23.3 percent inflation rate in 1990. Total employment by these 330 micro-enterprises is estimated to have declined by 1.70 percent during 1990.

It is relevant to note that while private consumption in Honduras increased by an average of 3.1 percent between 1985 and 1989, total private consumption grew by only 0.3 percent in 1990 (Economist Intelligence Unit 1994). This represents a net reduction of about three percent in private consumption per capita. This slow down in private consumption is

generally attributed to the economic adjustment programme (Economist Intelligence Unit 1994).

It is interesting to note that the micro-enterprises surveyed had experienced a real growth in revenues during a year in which total private consumption had grown very little and private consumption per capita had declined. This may reflect a counter-cyclical tendency in the demand for goods and services produced by micro-enterprises. During periods of economic difficulty and uncertainty, many middle class and lower-middle class consumers become less economically secure and more price sensitive. Many such consumers change their buying patterns away from more expensive and higher quality formal sector goods to informal sector goods which are usually purchasable in smaller quantities and are perceived to be cheaper. This counter-cyclical tendency has been noted in other countries- Zimbabwe, Jamaica, Bulgaria and Russia (Vander Weele and Markovich 2000). This counter-cyclical tendency was also observed in the survey of 92 micro-enterprises at the end of 1992 conducted as part of this research. Question 25c of the field survey (Annex I) asked about the general direction of "the volume of your own business?" Of the 92 micro-enterprises surveyed, 47 answered with Response number 1, meaning "much increase".

Another interesting observation in the USAID survey of 330 micro-enterprises between March 1990 and March 1991 was the perception that many new micro-enterprises selling similar goods and services were entering the market (Nathan 1991). When the formal sector comes under economic stress and begins to reduce paid employment, many new people start micro-enterprises in the informal sector due to low entry barriers and the need to make a survival income until the formal economy improves again (Liedholm and Mead 1987, Nubler 1996). This trend of an increasing

number of micro-enterprise competitors was also noted in the field survey of 92 micro-enterprises conducted as part of this research. Question 25 b of the survey (Annex I) asked about “the change in the number of businesses like yours in the area?” Of the 92 respondents, 66 answered with Response number 1, indicating “much increase”.

In considering the applicability of this research in Honduras to the other countries, the effects of economic structural adjustment in Honduras during the period studied (1989 to 1992) are applicable to many other developing countries which have experienced similar structural adjustment. These effects include a sudden increase in inflation, currency devaluation, reduced investment, capital flight, declining consumption per capita, a decline in the formal economy, and an increase in the number of micro-enterprises trying to survive in the informal economy.

#### 4.3 Profile of IDH

El Instituto Desarrollo Hondureño (IDH) was legally registered as a not for profit, non-governmental organization (NGO) on March 6, 1979. The organization was formed by a group of thirteen Honduran Christian business and professional people. These thirteen founders formed the general assembly. The initial discussions leading to the formation of IDH were initiated in 1977 by an NGO in the United States called the Institute for International Development Incorporated (IIDI). IIDI changed its name to Opportunity International in 1985. IIDI was formed in 1970 to help small and micro-enterprises in developing countries. It was formed and funded by a small group of Christian business people in the United States. Its first

projects were direct loans to small businesses in Colombia in 1971. By 1975, IIDI began to explore a partnership model of working in several countries in South and Central America. Under this approach, IIDI partnered with a local NGO founded by local Christian business people who had the common vision to help poor people via job creation.

Soon after the legal formation of IDH, IIDI began to provide funding according to a Memorandum of Agreement under which IIDI promised to grant IDH initial capital of \$250,000 over three years. This capital was fully granted by 1982.

IDH identified itself as a group of “Honduran Christians motivated to work voluntarily to develop an institution to serve the poor by providing initiatives and education for production and job creation” (Translation from the Charter of IDH 1979).

Over the twelve years period until 1991, IDH provided individual loans, training programmes, and direct technical assistance. To the end of 1991, IDH had made 3,246 individual loans totaling 11.4 million lempira (1991 Annual Report of IDH). IDH claimed that these loans had generated 5,546 jobs and had sustained another 6,926 jobs (Annual Report of IDH 1991).

From the beginning of IDH, there is a clear concern for the holistic development of its clients. The founding documents of IDH mention the “betterment of the lives of beneficiaries in moral, ethical, and economic aspects” (translation from the Charter of IDH 1979). In addition to loans, IDH implemented its vision of holistic development via formal training programmes and direct technical assistance visits to clients. The training programme provided formal courses on various administrative and technical subjects. These training courses were voluntary. Although IDH

charged a nominal fee, they did not intend to fully cover training costs and management felt that the training costs were subsidized by the interest being charged to clients. (interview with Edgardo Vargas, Executive Director of IDH in June, 1992.)

During these formal training courses, there were often discussions of moral, ethical, spiritual, family and personal concerns. The training curriculum included verses from the Bible and the sessions were always opened with a brief prayer. Based on interviews with the senior management of IDH in 1992, they felt that IDH was strongly identified by clients and the general public as an Evangelical Christian organisation. All the senior managers in 1992 identified themselves as Evangelical Christians (interviews with senior managers of IDH in June, 1992).

Loan officers were supposed to make monthly technical and supervisory visits to each of their clients. These visits often provided an opportunity to discuss family and personal issues and the loan officers were encouraged to help provide spiritual guidance for interested clients. In December 1992, the Executive Director of IDH was concerned that these monthly visits were becoming merely loan collection visits as IDH had grown rapidly and the loan officers seemed to have less time to spend with individual clients (interview with Edgardo Vargas in June, 1992).

IDH began with a vision of lending to borrowers:

...that not only demonstrated direct employment creation, but also the ability to grow rapidly and create additional employment in the future. The goal was to provide initial financial assistance so that businesses could then be able to apply for credit in the formal banking sector, and no second loans were given (Befus 1992:1).

This policy of no second loans was changed in the later part of the 1980s after IDH had taken a loan from the Inter-American Development Bank and they had a larger fund to deploy.

Due to economic conditions in Honduras, it also became apparent that the formal banking system was not providing assistance to growing businesses, and second loans became a safe and inexpensive means of placing loan funds. The need to find a safe and profitable place to put the funds superseded the desire to find entrepreneurs capable of managing growing businesses (Befus 1992:2).

The individual loan portfolio grew from 1987 to 1992 as set forth in Table 4.2 below:

Table 4.2: IDH Individual Loan Portfolio from 1987 to 1991  
(In Lempira)

Year	Number of loans Outstanding	Value of loans Outstanding	Number of loans made	Value of loans made
1987	691	1,817,000	360	1,061,148
1988	824	2,032,000	363	1,111,620
1989	1,051	2,554,000	675	1,916,937
1990	1,213	2,996,000	722	2,156,700
1991	1,326	3,260,000	581	2,707,998

Source: IDH Annual Reports for 1989, 1990, and 1991

In line with the growth of its lending activities, the training activities and visits to clients also grew as indicated in Table 4.3.

Table 4.3: IDH Training Courses, Participants and Clients Visits from 1983 to 1991

Year	Training Courses	Participants in Training Courses	Client visits
1983	32	384	
1984	14	220	
1985	18	247	
1986	34	466	
1987	45	834	
1988	34	926	
1989	50	1,154	5,182



1990	45	690	5,962
1991	70	1,160	7,426

Source: IDH Annual Reports of 1989, 1990, and 1991.

At the end of 1991, IDH had a board of directors of five people who were elected by the General Assembly for a term of three years. The board of directors appointed an Executive Director and there were 21 staff members, including nine loan officers. IDH had five branch offices covering the five largest cities in Honduras. During the latter half of the 1980's, the amount of loan capital available to IDH appeared to be growing in relation to the size and capacity of the organization. IDH had been making progress in its operational sustainability, increasing from less than 50 percent operational sustainability in 1985 to almost 96 percent in 1989.

(Operational sustainability was defined by IDH as the ratio of operating costs covered by income earned from client interest and fees. However, in computing operating costs IDH did not include any loan loss provisions.)

As indicated in Table 4.4 below, the trend of increasing operating sustainability began to reverse in 1990 and 1991.

Table 4.4: IDH Operations Summary from 1989 to 1991 (In Lempira)

1	2	3	4	5	6
Year	Earned Revenue	Operating Costs	Operating Sustainability Percentage (2/3)	Amount of Loans Disbursed	Cost per Unit Lent (3/4)
1989	486,200	506,812	95.9	1,916,937	.264
1990	515,349	548,027	94.0	2,156,700	.254
1991	750,412	899,956	83.3	2,707,998	.332

Source: IDH Annual Reports for 1989, 1990, and 1991

Due to inflation in 1990 and 1991, operating costs increased at a faster rate than the loan portfolio and earned income. The consumer price index increased by 23 per cent in 1990 and IDH tried to compensate for cost increases by increasing interest rates on individual loans from 15 per cent to 24 per cent. The interest rate increase was put into effect near the end of 1990. However, inflation increased to 34 per cent in 1991 before it was reduced back under 10 per cent for 1992 and subsequent years.

Even more alarming than the decline in operating sustainability was a large increase in delinquency in 1991. At the end of 1991, 700 loans representing more than 50 percent of the total loans were delinquent by more than 30 days and these delinquent loans totaled about 682,000 lempira of principal, representing a portfolio at risk of 22 percent (1991 IDH Annual Report).

The board of IDH became very concerned about the increasing portfolio delinquency and the declining operating sustainability in 1992. Although the Executive Director attributed these problems to general economic conditions caused by structural adjustment in Honduras, the board of directors commissioned an independent review of operations by Opportunity International. This review was done by David Befus, the Opportunity International Regional Director of Latin America. This review (Befus 1992) pointed out many operational problems and inefficiencies that needed to be corrected. Although the Executive Director began to make some of the changes needed, he resigned in early 1993 after he had secured a position with another NGO. The review by Befus and the appointment of a new Executive Director in early 1993 led to a change in IDH strategy to focus on smaller loans to poorer clients, especially women.

The social cost benefit implications of this strategy change are discussed in Section 8.5.

According to the report by Befus (1992:3):

...board members of IDH were concerned about the increasing collateral and experience restrictions used to qualify individual loan prospects. These requirements were viewed by management as necessary for promoting better collection performance, but also created a barrier for the poor, the original target population of IDH.

By the middle of 1993, the new group loan strategy of IDH was being implemented to reach poorer clients via solidarity group loans to groups of between four and ten clients and 'community bank' loans to groups of between 14 and 50 people. In addition to reaching poorer clients, these new group loan products allowed IDH to move in the direction being desired by Opportunity International and other donor agencies of increased outreach. In 1995, the 'community bank' loans were changed to 'trust bank' loans in line with the new product developed by affiliates of Opportunity International on a global basis. By 1996, most of the IDH loans were via 'trust banks' and there were very few individual loans being made. This trend has continued through 2002 when 94 percent of the 15,110 loans made by IDH were via trust bank groups (Annual Report of IDH 2002).

### RESEARCH METHODOLOGY AND DESCRIPTIVE INFORMATION

#### 5.1. Research Methodology

##### 5.1.1 Smallest and Youngest Firms

Empirical research from industrialized countries indicates that the smallest and youngest firms have the highest growth rates and also the greatest rates of failure (Bates 1989, Evans 1989a, Evans 1989b, Simon and Bonni 1958). There has been little empirical research on the growth and dynamics of the smallest and youngest micro-enterprises in developing countries. Little is known about the economic impact of assistance provided to these smallest and youngest micro-enterprises.

Micro-enterprise assistance schemes are often classified as involving either enterprise formation, enterprise expansion, or enterprise graduation (Martinez 1990). The clients involved in enterprise formation are generally the poorest and least experienced. As a result, loans made for enterprise formation are perceived to be the riskiest and least profitable for the lender. Nonetheless, since assistance to micro-enterprises is often justified on the basis that it contributes to poverty alleviation, it is important to study whether enterprise formation services for this riskiest client group have a positive economic impact.

Since micro-finance institutions around the world are under pressure to become financially sustainable and even profitable, there is evidence that they select clients and use methodologies which minimize risk (Liedholm

1991, Martinez 1990, Otero 1989). As a result, many micro finance institutions have discontinued enterprise formation loans because they are perceived to be too risky and are not considered cost effective. In practice, for those micro-finance institutions that make enterprise formation loans, there is a growing trend to make them on a group basis. These group loans involve cross-guarantees by the borrowers and they are considered to be less risky and more cost effective by the lending institutions. In part, this is usually attributed to the mutual support and peer repayment pressure generated amongst the group members. However, a comparison of individual and group enterprise formation loans is beyond the objectives of this study.

This study examines the impact of individual enterprise formation loans made by IDH in Honduras during the period from 1988 to 1992. As discussed in Section 3.2, empirical research on the impact of assistance to micro-enterprises has been hampered by the issue of causality. How do we know that the enterprises studied would not have performed as well or even better without credit or other assistance? There have been some attempts to use control groups to address this issue. However, the use of control groups in micro-enterprise research has been limited (Boomgard 1991, Farbman and Steel 1992, Liedholm and Mead 1990) The research design used in this study introduces a matching control group in an attempt to address the issue of causality. The research selection parameters provide that both the IDH subjects and the control group subjects are from the same neighbourhoods and are similar in enterprise age and size. Since the enterprises are of a similar age, size, and neighbourhood, the receipt of credit is the major differentiating enterprise variable between the two groups. As a result, it is possible to determine if access to credit at the enterprise formation stage makes any difference in the economic impact.

As discussed in Section 4.3, IDH provided other services that were connected to its loans. These other services included formal training courses, informal consulting by project officers, and networking with other clients. These other services were related to IDH's holistic Christian view of development. The study design did not attempt to distinguish between the effects of lending services and other, non-lending, services. The statistical tests in Chapters Six and Seven are thus tests of the joint effectiveness of the lending and non-lending services combined.

The research design described in Sections 5.1.3 and 5.1.4 does not attempt to control for differences in personal factors such as the proprietor's age, gender, religion, education, and experience. The literature is not clear whether any of these personal factors make a meaningful difference in the success of micro-enterprises (Bates 1990, Gartner 1989, Liedholm and Mead 1987, Liedholm and Mead 1991). As further discussed in Chapter Seven, multiple linear regression techniques are used to evaluate if any of these personal variables are significant in measuring differences in economic performance.

### 5.1.2 Survey Document

The research is considered ex-post facto field research for classification purposes. The field research and data collection was done during the last half of 1992 whilst the researcher was residing in Honduras. The data were collected via a survey document administered in personal interviews with both the IDH and control group subjects. An English translation of the final survey document is provided in Annex I.

The initial draft of the survey document was done in early 1992 whilst the researcher was residing in the UK. This initial draft was given to the Supervisors for review and comment, after which it was revised. It was

then given to Dr. David Befus and to Mr. Edgardo Vargas, the Executive Director of IDH, for review and consideration of the data that could be gathered efficiently in the context. (Dr. Befus was the Regional Director for Latin America for a micro-enterprise NGO named Opportunity International.) Dr. Befus was consulted on issues related to data collection in Honduras. Following these suggested revisions, the survey document was translated into Spanish by a professional translator. To test the translation, a second professional translator translated the Spanish draft back into English. After some minor translation refinements were made in consultation with Dr. Befus, the survey document was completed in English and Spanish.

The Spanish survey document was then field tested with eight IDH clients who did not qualify as research subjects. Several final amendments were then made to the survey document as a result of the field-testing.

### 5.1.3 IDH Client Selection

The research subjects selected for the study were the smallest and youngest enterprises served by IDH in Tegucigalpa, Danli, and Juticalpa. To select the smallest and youngest enterprises, the following selection parameters were used:

1. Enterprise started between January 1, 1988 and December 31, 1990, and
2. First time loan client of IDH, and
3. First individual loan received from IDH in 1989 or 1990, and
4. First loan was received within 12 months of date enterprise started, and
5. No more than two employees in addition to the proprietor at inception of the enterprise, and

6. No more than two employees in addition to the proprietor at the time of the first loan from IDH.

Since the survey was conducted at the end of 1992, a condition for inclusion in the sample was that the business started in 1988, 1989, or 1990. As a result, each enterprise was at least two years old at the time of the survey. As indicated in the review of empirical research in Section 3.2.5, time sequence is a problematic issue in micro-enterprise research (Boomgard 1991, Leidhom and Mead 1991). Most researchers and practitioners collect data at the time loans are issued for ease in data collection. However, this does not permit the researcher to determine what really happened to the enterprise after the loan was made. For example, at the time of the loan, the client may indicate they will hire three new workers. However, will these jobs actually exist in one year? There is a lack of longitudinal data in the micro-enterprise field because it is often hard to locate and interview micro-enterprise owners after much time has elapsed (Leidhom and Mead 1991). Research indicates that this is due to the mobility and vulnerability of micro enterprises (Liedholm and Mead 1987, Leidhom and Mead 1991). By selecting only enterprises started in 1988, 1989, or 1990, each enterprise in the survey is between 24 and 60 months old at the time of the survey in December, 1992. Twenty-four months is considered to be a sufficiently long term period for making meaningful measurements. It is believed that 60 months is the longest realistic period in which most clients could still be located and interviewed.<sup>1</sup>

The selection parameters resulted in a mean enterprise age at the time of the survey (December 1992) of 39 months for the IDH clients and 40

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<sup>1</sup> It should be noted that most IDH individual loans are for a term of between 12 and 24 months. After the client has repaid the loan, IDH does not have an ongoing monitoring relationship with the client. Therefore, 60 months was considered the longest possible time period in which clients could still be found and interviewed.



months for the control group. This difference in mean is not statistically significant at the 5 percent level.

Criterion 5 provides a limit of two employees at the inception of the enterprise to exclude enterprises started with larger amounts of capital and with greater growth potential. Since research indicates that most micro-enterprises are started with two or fewer employees (Fisseha and Davies 1981, Mead, Fisseha and McPherson 1991, Rubio 1991, Stallman and Pease 1983), this limitation is considered an important factor in making sure the sample only included the smallest firms at inception. This condition resulted in excluding three IDH clients who had more than two employees at inception.

The limit of two employees at the time of the first loan from IDH in Criterion 6 is intended to exclude enterprises that had already showed signs of success before their first loan from IDH. This reduces the possible attribution of differences between IDH clients and the control group to the selection by IDH of clients that were already evidencing success. This condition resulted in excluding two clients who had started with two or less employees, but had grown to more than two employees at the time of their first loan from IDH.

Similarly, Criterion 4 requires that the first loan from IDH be within twelve months of the date the enterprise started to also eliminate the possibility of self-selection censoring. By limiting the sample to clients who received their first loan within 12 months of enterprise inception, it could not be argued IDH selected clients because they already had a successful history. This condition was also imposed to ensure that the clients selected for research were the youngest enterprises at the time of the first loan from IDH and the credit could be classified as enterprise formation assistance.

The IDH clients were selected by a review of all IDH loan files for 1989 and 1990. This was done in the Tegucigalpa office of IDH on December 1 and 2, 1992. There were over 1,300 loans during this period. However, based on the criterion established for this research, only 68 clients qualified. The file data for these 68 potential clients was listed. This included information about the client's location.

#### 5.1.4 Survey Procedures and Control Group Selection

With the help of IDH, a number of possible research assistants were interviewed. They were all graduate students at the University of Honduras. Three of these students were hired to be research assistants. The researcher met with these assistants on December 3 and 4, 1992 to review the final survey document, explain instructions, and answer questions.

The researcher was accompanied by the research assistants in the conduct of the field survey from December 7 to 15, 1992. The survey was conducted with clients selected in the City of Tegucigalpa and the Villages of Danli and Juticalpa. The most difficult and time-consuming aspect of the field research was locating the 68 pre-selected IDH clients. Address information was incomplete and inaccurate. Housing for many of these people is makeshift and insecure. As a result, many of the clients had moved since their loan from IDH. This problem has been identified by other micro-enterprise researchers (CARE 1991, Liedholm 1991, Mead, Fisseha, McPherson 1991). Efforts were made to track down each potential pre-selected client. These efforts resulted in 46 complete client surveys being conducted. A total of 22 pre-selected clients could not be located and interviewed. Attempts were made to find some information about these missing clients. Section 5.4 provides some observations on the clients which could not be interviewed.

After the completion of each client interview, the research team began to search for a control group enterprise in the immediate area. This was done by a door to door canvass of each house in the immediate neighbourhood. The questions on page 1 of the survey were asked at each location to determine if there was an enterprise that could qualify for the control group. These are questions 1 to 4 of the survey document. To qualify for the control group, the person must have started an enterprise in 1988, 1989, or 1990. It must have had no more than two employees in addition to the proprietor when the enterprise started. The owner must not have received any credit from formal lenders for the enterprise under consideration. (An enterprise would not be excluded, however, if credit was received from informal sources such as friends and family or informal money lenders.) This method of matching control group selection was also very time consuming. It took an average of over 30 home visits to locate an enterprise which met the conditions to be included in the control group. However, the research team did not continue to the next IDH client interview until a matching control group enterprise was identified and interviewed. As a result, 46 control group surveys were obtained to match the 46 IDH client surveys.

The surveys were conducted in Spanish by the research assistants. The researcher was present for each interview and was consulted by the assistants during the survey if there were any questions or problems. At the end of each day during the field-work, the researcher reviewed all the surveys completed during the day and identified any surveys that were incomplete or unclear. These questions were addressed the next morning. In several cases, this resulted in going back to the research subject to clarify an answer.

## 5.2 Personal Descriptive Information

In this survey, personal information about the proprietor was gathered in Section B (Questions 5 to 14) of the survey document. This information was processed and analyzed. The principal tool used in the analysis has been to consider differences in group means and group proportions (t tests) to determine if the IDH subjects and the control group have similar personal characteristics. These statistical tests are provided in Annex II. The results of this analysis are discussed in the following sections.

Although the primary purpose of this research is to determine if access to credit at the start of a micro-enterprise has a measurable economic impact, personal factors are also analyzed to determine if they contribute to differences in enterprise performance. This analysis is done in Chapter Seven using multiple linear regression analysis techniques which enable the joint effects of various possible casual factors to be assessed simultaneously.

### 5.2.1 Income

Question 11 asked for the proprietor's average monthly income for the period immediately prior to starting the enterprise identified in the survey.

The mean monthly income of the IDH clients was 672 lempira per month and the mean monthly income of the control group was 522 lempira per month. This mean difference is not significant at the 5 percent level.

Based on ILO income surveys, the average wage in the Honduran formal wage sector at the end of 1989, was approximately 1,200 lempira per

month (ILO 1990). Both the IDH subjects and the control group were significantly below this wage level. On the other hand, both the IDH subjects and the control group had pre-enterprise average incomes in excess of the poverty line. Based on World Bank information, the absolute poverty line was at a monthly level of approximately 300 lempira per month (World Bank 1993). Also, based on UNDP estimates, approximately 55 per cent of the rural population and 14 per cent of the urban population were below the absolute poverty line in 1990 (UNDP 1994).

Based on these statistics, the mean average monthly income of the IDH clients and the control group members did not put them in the poorest quartile of Honduran society. On the other hand, they earned significantly less than the formal wage sector and starting a micro-enterprise was possibly one of the few routes available for them to increase their incomes.

### 5.2.2 Age

Question 7 of the survey asked for the client's date of birth from which his/her age was determined as of December, 1992 when the survey was taken. Both the IDH subjects and the control group had a significant age span from under 25 years old to over 65 years old. However, the mean age for the IDH subjects was 33.6 years and 35.7 years for the control group. The difference in mean age is not statistically significant at the 5 per cent level.

### 5.2.3 Education

Question 8 asked for the highest level of education obtained. From these answers, the number of years of formal education was determined. The range of education within both groups was very large. Each group had

people with no formal education and each group had respondents who had attended university. The mean period of education was 10.91 years for the IDH clients and 9.09 years for the control group. This difference in means is just statistically significant at the 5 percent level based on a t test of the mean difference. However, the absolute difference is not particularly large and given the number of personal variables examined, it is not surprising that the two groups would differ slightly in at least one respect. Based on UNDP data (UNDP 1994), the average years of education for the population as a whole is about 6 years.

#### 5.2.4 Experience

Question 12 asked for the client's years of experience in the same type of business or industry as the enterprise identified in the survey. The mean period of experience for the IDH subjects was 5.3 years and the mean for the control group was 6.7 years. A t test was conducted to evaluate the difference in means between the two groups and there is not a statistically significant difference at the 5 percent level.

Question 10 asked what the proprietor had been doing prior to starting the enterprise identified in the survey. Most of the respondents in both groups had either been an employee of someone else or had been unemployed. However, eight of the IDH subjects and nine of the control group members had owned another enterprise before starting the enterprise identified in the survey. Based on a t test of the difference in group proportions, this is not a statistically significant difference between the two groups at the 5 percent level.

5.2.5 Gender

Question 6 asked for the gender of the proprietor. Of the 46 respondents in each group, 27 of the IDH subjects were women and 26 of the control group subjects were women. Based on a t test of the difference in group proportions, this difference was not statistically significant at the 5 percent level. For IDH, this proportion of women generally reflects the gender mix of its client base. From 1988 to 1990, approximately 50 percent of the IDH loans were made to women.

5.2.6 Religion

Question 9 asked for the religious affiliation of the proprietor. The answers available were: Catholic, Protestant, Other, None.

A majority of Honduras have historically been Catholic. However, the Protestant churches grew rapidly during the 1980's and membership was estimated to approximate almost 20 per cent of the population in 1990. The survey results for this question are summarized in Table 5.1:

Table 5.1: Religious Distribution

Religion	IDH	Control
Catholic	28	19
Protestant	16	19
Other	2	2
None	0	6
Total	46	46

Source: IDH Client Survey

### 5.3 Enterprise Descriptive Information

Section C of the survey asked various questions about the enterprise. This enterprise descriptive information is summarized in the following paragraphs. Also, this information is included in the econometric analysis discussed in Chapter Seven to determine if any of these enterprise variables has a statistically significant relationship to performance.

#### 5.3.1 Location

Due to the matching control group structure of the research design, both the IDH subjects and the control group have the same locational distribution. Both groups have 24 respondents in Tegucigalpa, 19 in Juticalpa, and 3 in Danli. Tegucigalpa is an urban setting and both Juticalpa and Danli are semi-urban areas.

#### 5.3.2 Industry Type

Question 14 asked about the type of industry. There were a wide range of both manufacturing and service businesses. Also, in the rural areas, a number of respondents were involved in various aspects of agriculture. To classify the types of enterprises for further econometric evaluation, the following categories were used: Manufacturing, Vendors, and Agriculture. The distribution by type of industry for the two groups is in Table 5.2. The manufacturing clients cover a diverse range of activities. The most prevalent activities were woodworking, shoe and sandal making and brick making.



Table 5.2: Industry Distribution

Type of Industry	IDH	Control
Manufacturing	34	31
Vendor	2	5
Agriculture	10	10
Total	46	46

Source: IDH Client Survey

5.3.3 Employees

Question 4 of the survey asked for the number of paid employees in addition to the proprietor when the enterprise started. As previously discussed, the research design did not include enterprises with more than two employees when the enterprise was started. The mean number of employees at inception was 0.59 for the IDH subjects and 0.69 for the control group. A t test was applied to determine if this was a significant difference in the means between the two groups. The difference in the mean between the two groups is not statistically significant at the 5 percent level.

Question 22 asked for the number of paid employees as of December, 1992 when the survey was conducted. The mean number of employees for the IDH clients was 0.52 and the mean for the control group was 0.54.

Based on a t test, the difference in the mean was not statistically significant at the 5 percent level.

Question 26 asked whether the owner would add employees if the enterprise could overcome barriers to growth. It also asked about the ideal number of employees if the enterprise could grow. The purpose of these questions was to understand what the attitudes of the proprietor were to growth and optimum workforce size. Both groups would like to add employees. The mean ideal number of employees was 3.05 for the IDH subjects and 2.84 for the control group. Using a t test, this difference in mean between the two groups was not statistically significant at the 5 percent level.

#### 5.3.4 Sources of Initial Capital

Question 18 asked about the principal source of financing to start the enterprise. As set out in the research design, there was a significant difference between the two groups. Of the 46 IDH subjects, 39 indicated that IDH was the principal source of initial financing. The other responses were two who received credits from family or friends and five who used their own capital. This question confirms that the research design identified the youngest clients served by IDH. Of these 46 clients, the mean time from official enterprise start date as identified in Survey Question 2b until the first loan from IDH was just under two months. For 33 of these enterprises, the loan was made on the same day as the enterprise start date identified by the client.

For the control group, none of the respondents identified a formal lending institution as the principal source of initial financing to start the business. Of the 46 respondents in the control group, 33 identified their own capital as the principal source of initial financing. Four respondents indicated they

had received gifts to start the enterprise and six indicated they had received loans from family or friends. Three respondents indicated that informal moneylenders were the primary source of initial financing.

### 5.3.5 Business Closure

Question 3 asked whether the business identified was still in operation as of the date of the survey (December 1992). Of the pre-selected IDH clients surveyed, 12 of the 46 businesses were no longer in operation. For the control group members selected by a door to door canvass, seven of the 46 indicated that the business they had started during 1988, 1989, or 1990 was no longer in operation. The logical question to be considered is whether IDH clients have higher failure rates and, if so, why?

It should be noted that other researchers have indicated that door to door household surveys of micro-enterprises will under-report the proportion of business closures (Liedholm 1991, Mead, Fisseha, McPherson 1991). This is because the proprietor is often no longer working near the household during the day but has obtained a wage job from someone else at another location. Since the IDH subjects and the control group were chosen in a different manner, there may be a bias in the data and the proportion of business closures in the control group is under-reported. This is a limitation resulting from the selection of the control group via a door to door canvass.

Nonetheless, Questions 33 to 35 tried to gather some information for the closed businesses. The principal reasons cited by the IDH group were poor health, too much competition, no profit, high cost, and inflation. Only one of the 12 IDH respondents indicated that lack of capital was a major reason for closing the business. The control group respondents listed many

of the same reasons for closing. However, four of the seven respondents listed lack of access to capital as one of the principal reasons for closing.

Regarding their activities since the business was closed, three of the IDH clients had started a different business. Each of these had obtained another loan from IDH. Five were unemployed and four were employees of other enterprises. Of the control group, four were unemployed and three were employees of other enterprises.

Regarding disposition of the IDH loans for the closed businesses, nine of the twelve had repaid in full as of December, 1992. This includes the three clients who had another IDH loan to start a different business. One loan had been written off and two were still in the collection process, the outcome of which was uncertain.

#### 5.3.6 Competition, Problems and Barriers to Growth

Question 23 asked about major competitors. A large majority of both IDH and control group members indicated that their principal competitors were other nearby micro-enterprises. Most did not face competition from large businesses. Question 25 asked about how they perceived their market opportunities had changed since they started the business. All respondents indicated that the markets had either not changed or they had become more competitive. There were no responses that the markets had become less competitive. As indicated in a nation-wide micro-enterprise survey (Nathan 1991), which is discussed in Section 4.2, the structural adjustment programme seemed to be causing the markets for micro-enterprise outputs to be growing. However, the number of micro-enterprises was growing even faster.

#### 5.4 Comments on Missing IDH Clients

Of the 68 pre-selected IDH clients, the researcher could not locate 22, despite extensive efforts to find them. The research team asked many questions in the neighbourhood about the people we were trying to interview and what had happened to them. As observed by both Liedholm and Kilby, it is possible some of these unlocated clients thought we were with the Government or law enforcement bodies and they were trying to avoid the research team (Kilby 1985, Liedholm 1991). However, an attempt was made to document what had happened to these missing clients. It is not possible to know how accurate the answers are that were given by people in their former neighbourhoods.

Of these 22 clients, no information was found regarding the whereabouts of nine. Of the remaining 13, nine were purported to have moved to other locations in Honduras and four were said to have immigrated to the United States. Of those who were still in Honduras, it was not possible to determine how many were still operating the micro-enterprise financed by IDH.

Of these 22 missing clients, 19 had repaid their loan in full as of December, 1992. Three had not fully repaid their loans and legal actions were in process.

#### 5.5 Comments on Micro-enterprise Graduation

None of the IDH clients or control group enterprises surveyed appeared to be 'graduating' into modern small-scale enterprises. According to the criterion developed by Little and Schmitz (Little 1987, Schmitz 1982) a modern small scale enterprise would have ten or more employees, growing and stable revenues, a secure place of business, and be a legally registered activity. They would also be able to qualify or consider trying to qualify for commercial bank financing.

Micro-finance institutions often mention client 'graduation' as a goal. However, most researchers have found little evidence of micro-enterprises 'graduating' to become modern small-scale firms (Webster 1991, Stearns 1991). Research on small-scale enterprises in several countries confirms that very few of them began as micro-enterprises (Cortes, Berry, Ishag 1987, Little 1987, Schmitz 1982).

### RESULTS OF ANALYSIS REGARDING THE IMPACT OF CREDIT

#### 6.1 Analytical Technique

As indicated in Chapter Five, the research was planned such that the major variable differentiating the IDH subjects and the control group was access to a formal enterprise formation loan in the early stages of the business. Most of the IDH clients received a loan within two months of starting their business and all the IDH clients received a loan within twelve months. The control group members did not have any credit from a formal lending institution. As explained in Chapter 5, the research criterion were designed such that the IDH subjects and the control group were similarly the smallest and youngest enterprises. This chapter analyzes the growth and performance of the enterprises in both groups from inception to the survey date in December 1992. The dependent variables studied to analyze performance are: 1) Revenue, income, and income growth in Section 6.2, 2) Productivity per hour in Section 6.3, and 3) Employment and employment creation in Section 6.4. The enterprises in each group were between 24 and 60 months old at the time of the survey. In December 1992, the mean age of the IDH enterprises was 39 months and the mean age of the control group enterprises was 40 months.

This Chapter is intended to evaluate whether access to credit made any difference in the growth and development of these enterprises. This is done by comparing the mean of the IDH group with the mean of the control group on various dependent performance variables. Mean difference tests (t tests) are conducted to determine if the mean

differences were statistically significant. The statistical tests (t tests) are provided in Annex II.

Also, the impact of these loans in reducing poverty is analyzed and discussed in Section 6.5. This discussion refers to impact possibility frontier and a poverty gap models developed by Hulme and Mosley (1996).

## 6.2 Revenue, Income and Income Growth

Question 32a of the survey asked for the average monthly revenue of the enterprise. Revenue is the simplest dependent variable to measure. The average monthly revenue of the IDH clients was 4,860 lempira and the average monthly revenue of the control group was 3,889 lempira. In conducting a t test of the difference in means between the two groups, the difference in group means is not statistically significant at the 5 percent level. With respect to revenue, it appears that access to credit may not have a significant relationship. However, it is to be noted, that the absolute difference in revenues is substantial and that the difference in means may not have been statistically significant because of the large variability in the revenues and the small sample size of the study (46 subjects in each group).

To analyze income differences between the two groups, it is first necessary to determine which definition of enterprise net income to use. Unlike research involving larger businesses in which historical financial statements are generally available, micro-enterprises do not usually prepare financial statements. This was addressed in Question 27a of the survey which asked if formal financial records were kept for the enterprise.



Only two of the IDH clients and three of the control group members answered affirmatively. Since historical financial data is not available, it is necessary to define simpler measures of micro-enterprise income. One definition that has been used by other micro-enterprise researchers is value added (CARE 1991, Dichter 1989, Goldmark and Rosengard 1985). This is computed by subtracting purchased goods and services from the revenue generated. It is also generally the measure of income used in social cost benefit analysis (Hansen 1978, Kilby 1985, Mishan 1988) It has the advantage of being relatively easy to compute. However, it is not precise as it ignores both returns to labour (actual or imputed payroll costs) and returns to capital (debt service and return on equity invested).

For purposes of this research, it was decided that value added was the best measure of enterprise income because of its ease in computation and the respondents' ability to estimate the data. When the survey document was field tested, all respondents were able to quickly estimate the monthly revenues and purchases needed to compute estimated value added. On the other hand, they were generally not able to provide payroll, debt service or equity information needed to develop a more refined measure of enterprise income.

The survey document included average monthly revenue in Question 32a and average monthly purchases in question 32b. By subtracting the latter, monthly value added was determined. The mean monthly value added for the IDH clients was 2,261 lempira. The mean monthly value added for the control group was 1,513 lempira. This difference in mean value added is statistically significant at the 5 percent level. The IDH clients had a statistically significant higher mean monthly value added than the control group.

Income growth was estimated by comparing enterprise value added at the time of the survey in December 1992 with estimated monthly income before the enterprise was started (see Question 11). This is considered to be baseline income. The results are summarized in Table 6.1:

Table 6.1: Increase in Mean Monthly Income (In Lempira)

	IDH	Control
Mean value added	2,261	1,513
Mean base income	672	522
Mean income increase	1,589	991

Source: Computed from IDH Survey

The IDH clients seemed to be able to use the financing they received to generate more income growth. However, it is not apparent whether this income growth is sufficient to justify the investment of development funds into the support of the smallest and youngest micro-enterprises. This question is addressed in Chapter Eight via the tools of social cost benefit analysis.

It is recognized that value added gives an overly optimistic picture of enterprise net income because it excludes the cost of labour and the cost of capital. To correct for these exclusions, the following estimates were made to adjust value added and get a more accurate estimate of enterprise net income.

1. Estimated paid wages were computed based on the answers to question 22 of the survey;
2. Unpaid family labor was imputed based on the information in question 22. This was calculated at an estimated shadow wage of 2 lempira per

hour. Question 22 indicates that wages paid by the micro-enterprise respondents generally ranged from 60 to 120 lempira per week. The hours worked generally ranged from 30 to 60 per week. The estimate of shadow wage is based on the mid-point of these ranges. Average wages of 90 lempira per week divided by an average of 45 hours worked per week;<sup>2</sup>

3. It was not possible for the proprietors to estimate the capital invested in the enterprise. For estimation purposes, the owner's equity was considered to be equal to 1.5 times the monthly revenue. This was approximately the average relationship found in another empirical study in which both equity and revenues were measured (Liedholm and Mead 1987). The monthly cost of capital was imputed at one per cent per month on this equity amount. This was the approximate average deposit rate that banks paid on demand deposits in December 1992. This deposit rate represents an estimate of opportunity cost of capital that the proprietor could have earned on their equity in a relatively riskless bank deposit. This is slightly above the monthly inflation rate at the end of 1992;

4. Debt service was excluded since almost all the loans had been paid off as of December 1992.

This adjusted measure of enterprise monthly net income is shown in Table 6.2.

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<sup>2</sup> It should be noted that this estimated wage is substantially lower than the minimum wage and the average wage in the formal sector of the economy. The shadow wage is actually below the estimated poverty line. This is not unusual in low income countries with substantial excess labour (Scott 1976).

Table 6.2: Mean Adjusted Monthly Net Income (In Lempira)

	IDH	Control
Mean value added	2,261	1,513
Less mean wages paid	247	226
Less imputed wages-family labour	120	130
Less imputed capital cost	48	39
Mean adjusted monthly net income	1,846	1,128

Source: Computed from IDH Survey

Honduras experienced relatively high inflation from 1990 to 1992.

Therefore, it is necessary to determine if the increase in real income after adjusting for inflation is also significant. This was determined by deflating the adjusted enterprise net income in December 1992 as computed in Table 6.2 to the date of business inception based on monthly increases in the Honduran consumer price index (IMF 1993). This deflated real income is then compared with the baseline income before the enterprise was started to determine the change in real income. This comparison is shown in Table 6.3.

Table 6.3: Mean Increase in Real Monthly Income (In 1989 Lempira)

	IDH	Control
Mean deflated net income	937	573
Mean base income	672	522
Mean increase-real monthly income	265	51
Percentage increase	39.4%	9.8%

Source: Computed from IDH Survey

The IDH clients were able to increase their real incomes at a faster rate than the control group.

Although the IDH clients were able to increase their nominal and real incomes at a faster rate than the control group, have they improved their position in relation to the economy as a whole? ILO statistics indicate that the average monthly wage in the formal wage economy of Honduras at the end of 1989 was approximately 1,200 lempira per month (ILO 1990). The baseline mean monthly income of the IDH clients before starting their enterprise was 672 lempira per month. This was 56 percent of the mean average salary in the formal economy. On the other hand, this was more than two times the level of absolute poverty which was estimated at 300 lempira per month (World Bank 1993).

By the end of 1992, the mean adjusted monthly net income of the IDH clients was 1,846 lempira. Based on ILO statistics, the average wage in the formal sector was 1,978 lempira per month at the end of 1992 (ILO 1994). The mean IDH client adjusted net income had risen to 93 per cent of the average monthly earnings in the formal economy at the end of 1992. As a result, it seems as though the economic situation of the IDH

clients has progressed in relation to the economy as a whole. Also, by the end of 1992, the mean adjusted IDH net income of 1,846 lempira rose to become almost 3.5 times the absolute poverty line.

### 6.3 Productivity

For purposes of this research, productivity is defined as the value added per hour worked by the proprietor. This is the simplest possible measure of productivity. The computation of value added was discussed in the preceding section. Hours worked per week by the proprietor were determined in Question 20 of the survey. The mean hours worked per week by the proprietor was 62 hours for the IDH clients and 70 hours for the control group. Although this difference was not statistically significant at the 5 percent level, it is significant at the 10 percent level.

The shorter number of hours worked by the IDH clients confirms the observations of other researchers who had observed that as micro-enterprises provided a certain level of income for the family, the owners tend to work less hours and/or diversify their activities into other businesses (Liedholm and Mead 1987, Liedholm 1991). This is especially true of enterprises owned by women (Downing 1991, McKee 1989).

In computing the monthly value added per hour worked by the owner, the mean for the IDH group was 9.23 lempira per hour and the control group mean was 5.58 lempira per hour. This mean difference between the two groups is statistically significant at the 5 per cent level. As a result, it is reasonable to conclude that the financing received by the IDH clients helped them to achieve higher levels of productivity per hour worked than

the control group. Although these clients still worked long hours, there is some evidence that they were able to work fewer hours due to their increased income.

As discussed in Section 2.2.3, the most extensive empirical research available on returns generated by micro-enterprises was published by Liedholm and Mead (Liedholm and Mead 1987). In this study, they analyzed data that had been collected from a number of countries. For purposes of making cross-country comparisons, they converted the data into US dollars at official exchange rates. This study included data from Honduras that was collected in 1980 (Stallman and Pease 1983). In making these cross-country comparisons, they attempted to look at the net return per hour of family labour. They used a concept of economic profit which was derived in a similar manner to the adjusted net income calculated in the preceding section. However, they further reduced economic profit by the hours worked by the owner computed at the shadow wage. For purposes of replicating the calculations of Liedholm and Mead, the owner's time is charged at an estimated shadow wage of two lempira per hour worked. Table 6.4 applies the Liedholm and Mead model to the survey data and calculates the mean return per hour of family labour.

Table 6.4: Mean Return per Hour of Family Labour (In Lempira)

	IDH	Control
Mean adjusted monthly net income Less hours worked per month by owner at shadow wage _____.	1,846 (541) _____.	1,128 (609) _____.
Adjusted monthly profit	1,305	519
Divide by mean hours per month worked by all family members	÷ 330	÷ 369
Mean return per hour of family labour (in 1992 lempira)	3.95	1.41

Source: Computed from IDH Survey

Based on the above calculations, both the IDH clients and the control group had a net residual economic profit per hour of family labour. This is similar to the results derived by Liedholm and Mead from the 1980 data. They stratified the data to look at returns per hour based on firm size as measured by the number of workers. Their categories were less than five workers, five to ten workers, and ten to 49 workers. Based on their data for Honduras, the mean economic profit per hour worked was positive for all firm size categories. However, they concluded that there was a strong cross-country correlation between firm size and the economic profit per hour of family labour. The smallest firm size category (less than five workers) in each country studied had the lowest level of mean economic profit per hour worked. Since all of the enterprises included in this study have less than five workers, the results above are compared with the smallest category of firms in the Liedholm and Mead study.

Based on 1980 survey data used by Liedholm and Mead which included 398 randomly selected micro-enterprises in Honduras with less than five workers, they calculated a mean net economic return per hour of family



labour of 0.60 lempira per hour. Adjusted for inflation, this equates to 1.85 lempira per hour in 1992. This is more than the 1992 control group mean as calculated above at 1.41 lempira per hour of family labour. This is probably because the Liedholm and Mead stratification included firms with three to five workers, whereas the control group excluded firms with more than two employees. However, both groups were lower than the IDH client mean of 3.95 lempira per hour.

Based on these calculations, it seems that access to credit at the early stage of the enterprise enabled the IDH clients to achieve significantly higher levels of productivity and economic returns per hour worked compared with the control group.

6.4 Employment and Employment Creation

A comparison of the mean number of employees at enterprise inception and as of the December 1992 survey is shown in Table 6.5.

Table 6.5: Change in Mean Number of Paid Employees

	IDH	Control
Employees in December, 1992	0.54	0.52
Employees at Enterprise inception	0.58	0.69
Change in Mean Number of Paid Employees	(0.04)	(0.17)

Source: Computed from IDH Survey

Based on Table 6.5, both groups had a reduction in the mean number of paid employees per enterprise from business inception to the survey in December 1992. However, the control group had a larger percentage reduction.

This result seems to confirm the observations of other researchers that the smallest micro-enterprises do not generally create new employment (Liedholm and Mead 1987, Liedholm 1991, Malhotra 1992). This is particularly true of enterprises operated by women (Downing 1991, McKee 1989). Both the IDH and control groups had almost 60 percent female owned businesses. The explanation of these researchers is that the goal of the smallest micro-business owners is generally to find a more secure and stable source of family income and they are adverse to the risk of reducing their income by adding paid employees. They are more likely to use unpaid family labour to help during busy periods. The use of unpaid family labour is the most likely reason for the decline in mean number of paid employees in Table 6.5.<sup>2</sup>

However, this explanation is not fully consistent with Question 26 of the survey which asked for the ideal number of employees. The responses to this question indicate that the proprietors would like to add employees if they could grow and overcome other business problems. Further study may be needed to better understand the business problems facing these micro-enterprises and what factors prevent them from growing and creating new jobs.

The lack of paid employment creation also confirms a micro-enterprise sectoral study done in Honduras in 1989 and 1990 (Nathan 1991). In this

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<sup>2</sup> This may be analogous to the theory proposed by Chayanov (Chayonov 1925) for decision making by semi subsistence farm households. He develops the criterion of returns to family labour and asserted that farm-households make allocative decision based on the gross product of activities minus paid out costs in a manner that provides the highest return to family labour.

study, there was evidence that the number of micro-enterprises had grown. However, there was no evidence of growth in the average number of employees per enterprise. This study concluded that the difficult economic conditions caused by structural adjustment caused a reduction in real purchasing power which resulted in many consumers switching from the formal sector to cheaper and lower quality goods in the micro-enterprise sector. Although the total market for micro-enterprises was expanding, the number of micro-enterprises was growing even faster. This was attributable to the lack of opportunity in the formal wage sector of the economy.

This study confirms research in other countries that because entry barriers are small, the number of micro-enterprises tends to grow more quickly than market demand (Fisseha and McPherson 1991, Grant 1991) As a result, micro-enterprises face increased competition and it is difficult for individual micro-enterprises to grow. The smallest micro-enterprises do not have the capital or experience to differentiate their products or services. As a result, they remain in highly competitive markets and they will not be able to create or even retain paid employment. This conforms to Tokman's (1989) definition of the 'vulnerable' micro-enterprise sector.

It is interesting to note that the IDH clients estimated they would create an average of 0.76 new paid jobs per enterprise as a result of the loan. This would have represented an increase of 140 percent in the combined paid employment of these enterprises. This information was derived from the loan applications. However, based on the survey in December 1992, there was no net increase in paid employment. It is not clear whether these jobs were created and then discontinued or if they ever really existed. It is possible that the clients were responding to this loan application question optimistically and in a manner that would make the loan application more attractive to IDH. Alternatively, it is possible they

intended to create these jobs at the start of the business. However, business reality and competitive conditions may have prevented them from actually growing to a size where it was economically efficient to add employees.

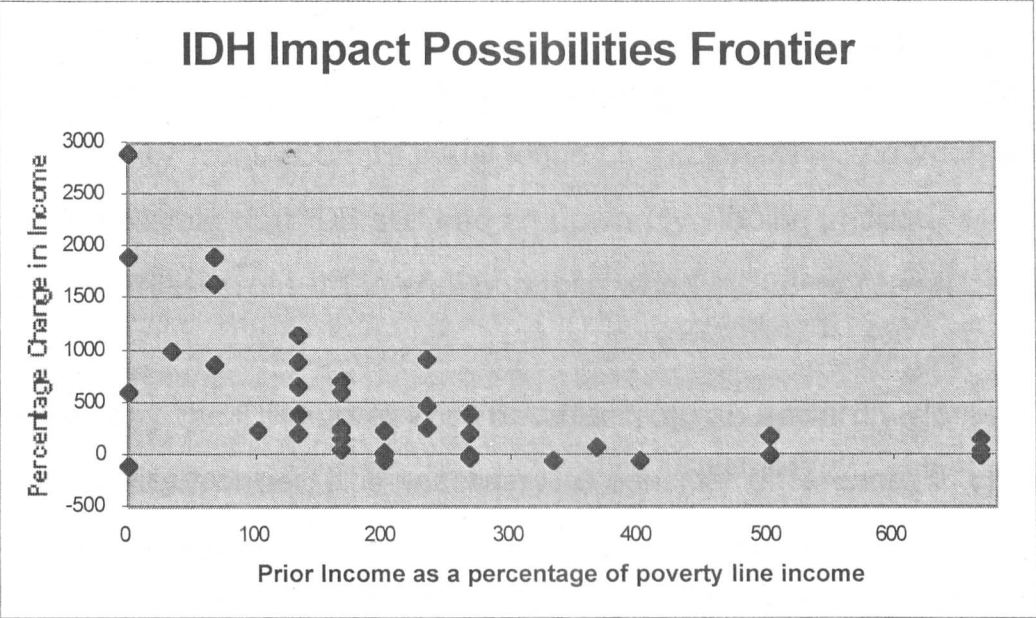
## 6.5 Poverty Reduction

Section 3.4 reviews the work Hulme and Mosley (1996) on measuring the impact of micro-loans in reducing poverty. They focus on an upwardly sloping impact possibility frontier when graphing the percentage increase in average borrower household income against the average borrower income as a percentage of poverty line income before the last loan. This is illustrated in Figure 3.1, which replicates Hulme and Mosley's Figure 8.1a (Hulme and Mosley 1996:183). This upwardly sloping impact possibility frontier applied across the twelve programmes they studied and also applied to clients within most of the individual lending programs as well.

An upwardly sloping impact possibility frontier means that loans made to the poorest clients produce less economic impact than loans made to relatively wealthier clients. Poorer clients have less economic impact because they cannot afford to take as many risks and they have fewer opportunities. Hulme and Mosley (1996) discuss various ways that micro-finance schemes can increase poverty impact despite the limitations of a given upwardly sloping impact possibility frontier.

Figure 6.1 below graphs the impact possibility frontier of the 46 IDH clients surveyed in this study using the same methodology as Hulme and Mosley.

Figure 6.1: The Relationship Between Borrower Income and Increase in Household Income for IDH Clients in the Survey



Contrary to Hulme and Mosley’s model of an upwardly sloping impact possibility frontier, Figure 6.1 shows a downwardly sloping curve. In other words, clients with lower incomes relative to the poverty line prior to the IDH loan had relatively larger percentage increases in nominal income at the time of the survey. To further analyze this downwardly sloping curve, a test of mean differences was applied to the percentage increase in nominal income of the 13 IDH clients in the survey who had pre-loan incomes below the poverty line and the 33 clients who had pre-loan incomes above the poverty line. The mean percentage change<sup>1</sup> for the group initially below the poverty line was 1733 percent. The mean percentage change for the group initially above the poverty line was 260 percent. The mean difference between the two groups is statistically significant at the 5 percent level. This confirms that clients with pre-loan incomes below the poverty line had relatively larger percentage increases in income than clients who started with pre-loan incomes above the poverty line. These

<sup>1</sup> For the test of mean differences and also for the impact possibilities frontier presented above, those clients who had no prior income were assumed, for the purpose of calculating percentage increases in income, to have an income of 100 lempira (one third the poverty-line income) .

results appear to contradict the model of an upwardly sloping impact possibility frontier as described by Hulme and Mosley (1996).

It should be noted that whilst IDH did not experience an upwardly sloping impact possibility frontier on its initial loans to the smallest and youngest clients, it is possible that IDH still had an upwardly sloping impact possibility frontier across its overall portfolio when including repeat clients.

In analyzing why the IDH survey results differ from an upwardly sloping impact possibility frontier, it is necessary to consider differences in client selection and loan sizes.

## 1. Client Selection

As discussed in Chapter 5, all IDH clients in the survey had taken their first loan and had recently started their business. By definition, these were the smallest and youngest enterprises in the IDH portfolio. They were starting out without a credit history. In contrast, Hulme and Mosley were measuring the percentage of income increase since the prior loan. Many of the clients they surveyed had already taken multiple loans from the same credit programme. It is presumed that both the clients and the lenders had gained sufficient experience in working with these specific clients to adjust loan terms and sizes to enterprise capacity and need. Since those clients who had more success in previous loan cycles would have higher incomes, the incremental percentage increase in income from their 'n th' loan could also be presumed to be larger based on their past performance.

## 2. Loan Sizes

Hulme and Mosley (1996) noted a high correlation between loan sizes and borrower incomes. Clients with larger incomes could bear more risk and

were able to take larger loans. Larger loans gave them more capital to invest and increased their income generating potential. This seems to be the major reason why those with relatively larger incomes had larger percentages of income increases as modeled in an upwardly sloping impact possibility frontier. In the IDH survey, there does not appear to be any correlation between income and loan size. This was tested by estimating the correlation between loan size against prior income from Question 11 of the survey. Details of the test are presented in Annex II. The correlation between loan size and prior income was not statistically significant at the 5 percent level. This supports a conclusion that there was no correlation between loan size and prior income. Most of these initial IDH loans were between 2,000 and 4,000 lempiras. Loan sizes were discussed with IDH management at the time of the survey and they confirmed they were using an arbitrary fixed loan size for most of these first time loans. IDH considered this size range for initial loans to be small enough to reduce risk, yet not too small as to render them unprofitable.

Since the IDH loans to these smallest and youngest enterprises did not encounter an upwardly sloping impact possibility frontier, did these loans have a significant impact in reducing poverty? As discussed in Section 3.5, Hulme and Mosley developed the “poverty gap formula” as a model to measure poverty reduction (Hulme and Mosley 1996:36). Under this formula, reductions in poverty are computed as the increase in net income earned by people below the poverty line. This includes increased net income of the proprietor’s family if they were below the poverty line as well as income generated by increases in net employment of persons below the poverty line. To maximize poverty reduction under this model, most of the loan clients must start below the poverty line and, as the incomes of these clients move above the poverty line, an increasingly large number of new clients must enter the programme who have incomes below the poverty line. In this manner there is always a high proportion of total

clients who have incomes below the poverty line. It is noted that initial loan sizes need to be very small to attract the poorest people and to minimize their risk. Income growth from the first loan may be minimal and it generally requires repeat loan cycles with increasingly larger loan sizes to bring poor clients above the poverty line. This approach generally involves short loan cycles of three to six months and rapidly increasing loan sizes commensurate with clients' ability to repay. Hulme and Mosley (1996) point out that poverty reduction is only maximized when a very large number of clients are reached using this approach since the incremental income increase per loan is relatively small. Gulli and Berger (1999) and DFID (Rutherford and Singh 1997) point out that more poor people may be attracted to poverty reducing loan schemes if the institution not only offers enterprise loans, but if it also provides other financial services tailored to the life cycle needs of the poor such as savings, insurance, emergency credit, and consumer credit for things such as weddings and school fees. Dreze and Sen (1991) view these non-lending financial services for the poor as belonging to the 'protectional' role of development programmes. They contrast 'protectional' services with 'promotional' services intended to finance asset acquisition, enterprise development and employment creation.

In using Hulme and Mosley's (1996) approach to decreasing the poverty gap to assess the impact of IDH loans to the smallest and youngest enterprises, it would seem that the IDH loans did not have a very large impact in reducing poverty. Only 13 of the 46 clients (28 percent) started with prior incomes below the poverty line. Also, as discussed in Section 6.4, these loans generated no net increase in paid employment. However, as discussed above, the clients receiving the IDH loans did not have the upwardly sloping impact possibility frontier - the incremental increase in income for the poorest group was not relatively small. Returning to the Hulme and Mosley (1996) poverty gap formula, a



substantial reduction in the poverty gap can be achieved, even without a very large proportion of poor people in the programme, provided that the average change in the incomes of this poorest group is substantially large. Of the 13 clients at or below the poverty line before starting their new enterprise, 12 of these were above the poverty line by the time of the survey. This suggests that in contrast to programmes that lend to clients who have already taken multiple loans from the same MFI, programmes that lend to the smallest and youngest enterprises which have had no prior access to credit have the potential to achieve substantial poverty reduction by the provision of a single loan.

Nevertheless, whilst most of these clients who started below the poverty line generated income increases to levels above the poverty line, the percentage of poor clients taking these loans was significantly less than most of the other programmes measured by Hulme and Mosley. Clearly the effectiveness of the IDH programme in reducing poverty could still be improved by attracting a larger proportion of poorer clients. The primary reason for attracting such a low percentage of clients below the poverty line seems to be the relatively high initial loan size. The IDH loans to the smallest and youngest enterprises had an initial loan size averaging 3,260 lempiras. This was approximately 160% percent of GDP per capita in Honduras at the end of 1989. As noted by Hulme and Mosley (1996: 185), the programmes that had the most relative impact in reducing poverty designed their loans specifically to attract new clients below the poverty line with very small initial loan sizes. “The most obvious reason for this is that only poor people will want to take very small loans. In the jargon, loan size acts as a self-targeting device” (Hulme and Mosley 1996:185). The schemes that Hulme and Mosley (1996:188) cite as designed to have the most impact in attracting poor borrowers have initial loan sizes averaging less than 50 percent of GDP per capita. The IDH loans did not attract a majority of clients with incomes below the poverty line

because poor people felt that they could not bear the risk of repaying such a large loan.<sup>2</sup>

## 6.6 Summary of Results

Sections 6.2, 6.3, and 6.4 compare the results of IDH clients with a matched control group of similarly small and young enterprises that started operating at about the same time as the IDH clients. These comparisons are done by analyzing statistical differences in group means via t tests. After 24 to 60 months from enterprise inception, the IDH clients had higher levels of income and productivity per hour than the control group. These differences were statistically significant at the 5 percent confidence level. However, there was no difference in employment creation as neither group demonstrated any long term paid employment creation.

These results showing no net employment creation are similar to the results derived by Hulme and Mosley (1996:102) in their study of twelve programmes. They conclude that:

*...the impact of borrowing on employment is a natural consequence of the technology in which the borrowing is embodied. Across the sample as a whole, as we have seen, the technical change induced by borrowing was not dramatic, and neither as a consequence have been its influences on employment outside the family (Hulme and Mosley 1996:102).*

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<sup>2</sup> Since the survey in 1992, IDH completely redesigned its programme to serve more clients and to attract a larger percentage of poor clients. This was initiated in 1996 when all new clients had to enter the programme via a group loan called a "trust bank". These group loans were designed to attract poor people by using small loans for short periods in the initial loan cycles. Clients could then graduate to individual loans after successfully completing four group loan cycles and developing a credit history. In the year that ended December 31, 2001, the initial loan size to a trust bank group member was less than 20 percent of GDP per capita. IDH made more than 16,000 loans in 2001 and is serving more than ten times the number of clients which were served in 1990.

Although the smallest and youngest clients served by IDH who had pre-loan incomes below the poverty line generally increased their incomes to levels above the poverty line and these poorer clients had income growth rates which were higher than those clients who had pre-loan incomes above the poverty line, the IDH loans did not have much relative impact in reducing poverty in comparison with other loan schemes studied by Hulme and Mosley (1996). As explained in Section 6.5, this is due to loan design features in which the initial loan sizes were too large to attract a high percentage of poor borrowers. (Only 28 percent of the IDH loans to the smallest and youngest enterprise were given to people with pre-loan incomes below the poverty line.) The poorest potential borrowers decided not to apply for these IDH loans because the risks of not being able to repay were perceived to be too great at the fixed initial loan sizes being offered by IDH (2,000 to 4,000 lempira).

In analysing the impact of these IDH enterprise formation loans, it is helpful to consider how these loans should be classified according to two different models: 1. 'promotional' vs. 'protectional' (Dreze and Sen 1991) and 2. 'capital widening' vs. 'capital deepening' (Hulme and Mosley 1996). As discussed in Section 6.5, the IDH loan sizes were too large to attract the poorest potential clients. These loans were designed to foster enterprise development, asset acquisition and income growth. As a result, these loans should clearly be classified as 'promotional' rather than 'protectional'.

However, even within a promotional approach to enterprise development, Hulme and Mosley (1996) differentiate 'capital widening' approaches which expand the stock of an existing technology such that returns per unit of capital remain constant from 'capital deepening' approaches which bring in new technology and increase the productivity of capital. Based on observations during the IDH survey, there was no evidence of new technology being used. This observation is consistent with the conclusions

of Hulme and Mosley (1996) over the twelve programmes studied. “First, we may recall, that the use of micro-enterprise loans to upgrade technology is actually the exception rather than the rule” (Hulme and Mosley 1996:95). However, Hulme and Mosley did find limited evidence of technical innovation amongst richer borrowers who had taken multiple loans already. “Technical innovation is generally confined to this group, but only to a minority within it” (Hulme and Mosley 1996:95). Since the enterprise formation loans made by IDH were the first loan received by each borrower in this study (Section 5.1.3), it is reasonable to conclude that these loans should be classified as being used for ‘capital widening’. These IDH enterprise formation loans increased the stock of capital (mostly inventory) and borrowers used existing technology to generate increased income, income growth and productivity per hour compared with the matching control group. However, with regard to capital widening, Hulme and Mosley (1996:103) conclude that “it was unusual for credit to trigger a continuous increase in technical sophistication, output or employment: it was much commoner for each of these variables to reach a plateau after one or two loans and then remain in a steady state.” While these capital widening loans may not trigger continuous increases in income and productivity, the results of this study support a conclusion that credit serves as an accelerator for enterprise growth and expansion.

However, does this acceleration of enterprises owned by loan recipients result from the displacement of non-loan recipients? This study did not attempt to test for displacement. However, very few of the micro-enterprises in Honduras had access to loans. Whilst loan access may have given a slight advantage to these IDH clients, it is not likely that micro-enterprise loan provision caused significant displacement effects.

## 6.7 Critique of Methodology

Although this research was designed so that access to credit was the principal differentiating variable between the IDH clients and the control group, it is recognized that causality is a complex phenomenon and it is never possible to completely isolate one variable in ex-post facto field research involving the performance of human beings (Kratwohl 1977). The interaction of various personal and enterprise variables may also play a significant role in determining performance. The research design did not attempt to control for these personal and enterprise variables. However, Sections 5.2 and 5.3 address these independent variables within the initial composition of the two groups. Based on the baseline mean differences tests discussed in Chapter Five, it does not appear that the mean differences between the two group is statistically significant for any of these personal or enterprise variables.

However, in trying to determine if access to credit was the principal cause of differences in performance, it is important to be aware that it is possible other independent variables were as important or even more important in explaining differences in performance. Chapter Seven addresses this possibility and the effects of other variables via the econometric tool of multiple linear regression analysis.

Another limitation of this approach is time sequencing of measurements. By measuring the survey data at one point between 24 and 60 months after the loan and enterprise inception, this study attempted to get a longer view than most other micro-enterprise impact research. However, it

may have been more precise to obtain more frequent measurements at shorter time intervals. While Section 6.6 concludes that credit serves as an accelerator for the growth of micro-enterprises, this conclusion could have been tested more precisely if multiple measurements were taken at more frequent intervals. For example; if credit is primarily an accelerator of enterprise growth, it is possible that almost all of the differences between the IDH clients and control group occurred within the first three to six months after the loan and there was little difference in performance after that initial period. Without more frequent measurements, it is not possible to analyze the precise time sequences in which new enterprises develop and the role of borrowing in this process.

### RESULTS OF MULTIPLE LINEAR REGRESSION ANALYSIS

#### 7.1 Analytical Technique

Section 6.2 of this thesis demonstrates that the IDH clients had a larger mean level of income than the control group. The difference is statistically significant at the 5 percent level. For purposes of this research, value added is used as a proxy for income as explained in Section 6.2.

However, a statistically significant difference in mean value added between the two groups is not sufficient to conclude that the loan from IDH was the primary cause of the increased income and income growth. Although the IDH loan may have contributed, there may be other independent personal or enterprise variables which were even more important.

Furthermore, it is possible that the difference in income between the IDH and control groups is attributable to differences in personal or enterprise characteristics other than the IDH loan. That is to say, other independent variables might be confounding the relationship between income growth and the loan from IDH. It is possible to test the impact of other defined independent variables and to test the impact of the IDH loan while controlling for other variables by using the econometric tool of multiple linear regression analysis. This Chapter describes the approach used to apply multiple linear regression analysis and the results of such analysis<sup>1</sup>.

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<sup>1</sup> It should be noted that multiple regression analysis is not sufficient to determine causality. However it is useful to determine if there were any other defined variables which are more strongly associated with income growth than the loan from IDH

A primary purpose of using multiple linear regression analysis is to develop a predictive model. If the data are not random and if there are statistically significant associations between variables, the model will have predictive value provided the independent variables are approximately linearly related to the dependent one. This type of predictive model could be valuable for micro-finance institutions which are looking for simple and cost effective means to predict the success or failure of broad categories of applicants.

As discussed in Section 6.2, value added was a simple and reasonably accurate measurement for research subjects to estimate based on memory. Memory recall is necessary because most subjects do not have any written financial records. As a result, value added was chosen as the dependent variable to analyze via multiple linear regression techniques. It is considered a reasonably good proxy for income and a primary indicator of enterprise success.

The application of multiple linear regression analysis required identification of all major personal and enterprise independent variables collected in the field survey. The following are the independent variables used in the initial multiple regression:

#### Personal Variables

- \* Years of formal education-linear variable
- \* Gender-male-dummy variable
- \* Religion (categorized by dummy variables as Catholic, Protestant, or None/Other)
- \* Age (categorized by dummy variables as under 30, between 30 and 45, or over 45)
- \* Years of experience-linear variable
- \* Owned an enterprise prior to current one-dummy variable



\* Income level before starting this enterprise-linear variable

### Enterprise Variables

\* Manufacturing enterprise-dummy variable

\* Hours worked per week in the enterprise-linear variable

\* Employees hired at enterprise inception-dummy variable

\* IDH Loan-dummy variable

The thirteen independent variables used in the regression include four linear variables in which there are a range of numerical values and nine dummy classification variables in which there are either positive or negative answers to each question. The notation used for dummy variables is a 1 or 0. Using this notation, a positive answer is indicated by a 1 and the default answer by a 0.

Multiple linear regression analysis techniques are useful in this type of research because both types of variables can be tested simultaneously to see how strongly associated they are with the linear dependent variable.

Table 7.1 shows the dummy variable (indicated as 1) and the default position (indicated as 0) for the dummy variables used in this analysis.

Table 7.1: Dummy Variables Used in Multiple Linear Regression Analysis

Variable	Yes	No
Gender	1- Male	0-Female
Religion	1-Protestant	0-Non Protestant
Religion	1-Catholic	0-Non Catholic
Age	1-Middle(30 to 45)	0-not between 30 and 45
Age	1-Young(under 30)	0-over 30
Owned an enterprise prior to current one?	1-Yes	0-No
Type of business activity?	1-Manufacturing	0-Non-manufacturing
Employees hired at business inception?	1-Yes	0-No
IDH Loan?	1-Yes	0-No (Control group)

The application of multiple linear regression analysis used in this study involved a series of successive iterations to reduce the number of variables to only those whose coefficient estimates were statistically significant. This approach was used because with so many variables at the beginning there was significant random noise. The random noise comes from including many variables which have little association with the dependent variable and this random noise reduces the overall predictive value of the model and may interfere in the estimation for the variables which are statistically significant. The successive iterations gradually eliminated insignificant variables and random noise to determine which variables were most consistently significant. This process resulted in four variables which were the most significant and the association between them and the dependent variable are studied in more detail.

The initial iteration included all thirteen of the independent variables. For each consecutive iteration, the variable with the highest p value (least significant coefficient estimate) on the previous iteration was eliminated and the remaining variables were tested<sup>2</sup>. Thus, after the first iteration, years of education, the variable with the highest p value (least association), was eliminated and the second iteration was run with the remaining twelve variables. This iterative process of eliminating the highest p value was continued until there were only four remaining variables which were the most statistically significant. Although they were not always statistically significant in the various iterations, these four variables had the greatest association with the dependent variable in almost all the iterations. The association of these four remaining variables with value added was then tested more extensively. The output of the multiple linear regression analyses is provided in Annex III.

The independent variable with the least association (highest p value) on each of the ten successive iterations is listed below in the order in which the variables were eliminated.

- \* Years of education
- \* Age
- \* Gender
- \* Manufacturing enterprises
- \* Religion
- \* Hours worked per week
- \* Years of experience

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<sup>2</sup> It should be noted the 'p' value is inversely related to the 't' statistic. Therefore, the lower the absolute value of the 't' statistic, the higher the 'p' value. For age and religion, either all or none of the relevant dummy variables were eliminated. F tests were used to calculate the p-value for the hypotheses that each of these groups of variables had no association with value-added.

The four remaining variables which were tested further are:

- (1) IDH Loan;
- (2) Owned an enterprise prior to the current one;
- (3) Whether there were any employees at enterprise inception;
- (4) Prior income.

These four variables were tested in a series of five multiple linear regressions in which all four variables were included in the first regression and then with four successive regressions in which one of the four variables was excluded and the association of the other three were analyzed. The output of these five multiple linear regression analysis tests is summarized in Table 7.2 and the detailed output is provided in Annex III. It should be noted that variable (2) “owned an enterprise prior to the current one” is negatively associated with value added which means that the experience of owning a business previously produces lower value added. This is further discussed and interpreted in Section 7.2.

The t statistic and p value from each regression analysis are shown in Table 7.2.

Table 7.2: Multiple Linear Regression Analysis: t statistics  
(p values in brackets)

Variable	IDH Loan	Prior Business	Employee	Prior Income
All four variables	1.8586* (.06647)	-2.1613** (.03342)	1.4795 (.1426)	1.6659* (.0993)
Exclude IDH Loan - Variable 1	-	-2.2610** (.02623)	1.3149 (.1919)	1.9277* (.0571)
Exclude prior business - Variable 2	1.9687* (.0521)	-	1.1849 (.2374)	1.2932 (.1993)
Exclude employees Variable 3	1.7326* (.0866)	-1.9757* (.0513)	-	1.8761* (.0639)
Exclude prior income - Variable 4	2.0992** (.0386)	-1.8884* (.0622)	1.7093* (.0909)	-

\*\* Significant at a 5 percent level. \* Significant at a 10 percent level.

Source: Computed from IDH Client Survey

In reviewing the five multiple regression analyses involving these four independent variables, variable (1) “IDH loan” and variable (2) “owned an enterprise prior to the current one” have the strongest association with value added. These two variables were significant at the 10 percent level in each of the four tests in which they were included. Variable (2) “owned an enterprise prior to the current one” was significant at a 5 percent level in two of the four tests in which it was included and Variable (1) “IDH loan” was significant at the 5 per cent level in one of the four tests in which it

was included<sup>3</sup>. The other two variables were not always significant at the 10 percent level and were never significant at the 5 per cent level.

## 7.2 Personal Variables

One purpose of studying personal characteristics is to determine if there are any personal classification variables which are strongly associated with income growth. These could provide important predictive information if supported by statistical significance in multiple linear regression testing.

In reviewing the multiple regression analyses, the two personal variables discussed above which have the most consistent association with value added are Variable (2) “owned an enterprise prior to the current one” and Variable (4) “prior income.” Prior income is a linear variable which is positively associated with value added. Although not significant at a 5 percent level in the multiple regression tests, it seems that those with a higher prior income will tend to generate a higher enterprise value added. This is logical and confirms other research that economic success in previous activities may be predictive of success in new enterprises (Cortes, Berry and Ishaq 1987). Also, a higher level of prior income may be related to higher levels of potential savings and investment in the enterprise and this creates greater growth potential.

“Owned an enterprise prior to the current one” is a dummy classification variable which is negatively associated with enterprise value added. In other words, if the person owned another business previously, the new

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<sup>3</sup> In Table 7.2 The cases in which a variable was significant at the 5 percent level are marked with an \*\*; the cases in which a variable was significant at the 10 percent level are marked with an \*.

enterprise will probably not have as much value added. This negative association is significant at the 5 percent level in two of the four multiple linear regression tests. However, there does not appear to be any other empirical research which relates the owner's success or failure in a previous business to the success or failure of new enterprises. There appear to be two conflicting opinions amongst practitioners on this issue. The primary view holds that it is most likely the prior business was not very successful because, if it had been successful, the entrepreneur would still be operating it. This view holds that the prior business most likely failed and this raises the probability of the new enterprise failing as well. This view relates enterprise failure to weaknesses in management skills or flaws in personal character. This view emanates primarily from industrialized countries (Bates 1989). The minority contrary view amongst practitioners is that entrepreneurs learn from their failures and, as a result, it is less likely the new enterprise will fail. There is little empirical data on entrepreneurial failure and re-entry against which these views can be tested.

The results of this multiple linear regression analysis support the former view that people who owned another enterprise prior to the current one had lower levels of value added and are more likely to fail. Micro-finance institutions should be concerned if a potential client owned another enterprise prior to the one for which a loan is being sought. They should carefully evaluate why the prior business was closed and whether this prior closure might have negative implications for the new enterprise being started. They should be especially wary if prior debts had to be written off by a lender.

## 7.3 Enterprise Variables

Based on the multiple linear regression analyses, the two enterprise variables in the survey which had the most consistent association with value added are Variable (1) “IDH Loan” and Variable (3) “whether they had any employees at enterprise inception.” Performance comparisons between the IDH clients and the control group are discussed in detail in Chapter 6 based on statistical tests involving differences in group means and group proportions. However, the multiple linear regression analyses seem to confirm that getting a loan from IDH is one of the variables most consistently associated with enterprise value added. This positive association was significant at the 10 percent level in all the final multiple linear regressions and it was significant at the 5 percent level in one of the four final tests in which it was included. The multiple linear regression tests indicate that an IDH loan was one of the most significant variables in the level of enterprise value added and there are no other enterprise variables (of those defined) which are more important.

Although there is a positive association between Variable (3) “having employee(s) at inception” and value added, it is not very strong and was not significant at the 5 percent level in any of the multiple linear regression tests. It was only significant at the 10 percent level in one of the four final analyses in which it was included.



## 7.4 Summary of Results

Multiple linear regression analysis was applied to determine if any personal or enterprise variables could explain a significant amount of the differences in value added<sup>4</sup>. Based on the multiple linear regression analyses discussed in this Chapter, the existence of an IDH loan is clearly one of the most significant factors in explaining differences in value added. This supports the results discussed in Chapter 6 that a loan from IDH had a significant impact on micro-enterprises generating higher mean levels of value added and productivity. The only other variable which was consistently meaningful in explaining performance differences among the research subjects is whether they had owned another enterprise prior to the current one. This variable had a negative association with value added.

## 7.5 Critique of Methodology

Although these associations are interesting and significant, caution must be enjoined when trying to use these multiple linear regression analyses to explain causality. Multiple linear regression only analyzes variables for

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<sup>4</sup> In interpreting the multiple linear regression results, the low level of R Squared and Adjusted R Squared should be noted. These are standard statistical measurements which indicate the percentage of the total change in the dependent variable which is explained by the combination of all the independent variables used in the multiple regression. The Adjusted R Squared is generally considered a better measurement because it is adjusted for the number of variables which is called the "degrees of freedom." In the final multiple regression iterations, the R Squared measure varies from .08 to .13 and the adjusted R squared from .05 to .09. Based on these measurements, it seems the identified variables explain a relatively small proportion of the total changes in the dependent variable. This is most likely due to the level of random noise in the measurement of value added and in the variability of enterprise performance. It could also be caused by the existence of potentially significant unidentified variables.

which information was collected. It is possible there are other potentially more important variables which were not included in this research and these unidentified variables may really have been the primary cause of performance differences. For example, competition and attitudes about competition were not included. Also, the literature review in Section 2.2.3 mentions various entrepreneurial models. Some of these models explain entrepreneurial behavior primarily in terms of personality characteristics and psychological profiles. It is beyond the scope and objectives of this research to test and measure any of these variables. This research also did not try to measure entrepreneurial motivation which is another complex phenomenon discussed in some entrepreneurial models. Also, micro-enterprises operate within economic, social and political environments which may be significant in interpreting results and performance. The omission of these and other potentially significant unidentified variables should be viewed as a limiting factor in interpreting the results.

Finally, the sample size of 92 entrepreneurs is relatively small which affects the power of multiple regression to detect association. It is possible that some other personal or enterprise variables were of some importance, but that the sample size was insufficiently large to detect these associations.

### RESULTS OF SOCIAL COST BENEFIT ANALYSIS

#### 8.1 Replication and Expansion of the Kilby Model

Section 3.3 summarized the work of Peter Kilby published in the book “Searching for Benefits” in which he applied the principles of social cost benefit analysis to six micro-finance institutions including IDH in Honduras. This was done using survey data from external evaluations carried out between 1982 and 1984.

Sections 8.2 and 8.4 replicate the social cost benefit measurements done by Kilby using the 1992 survey data from the smallest and youngest IDH clients collected for this thesis. Forty-six IDH clients were surveyed based on the criteria described in Section 5.1.3. These criteria were developed to select the smallest firms which were all essentially start-ups when they got their first loan from IDH in 1989 or 1990. Section 8.5 draws conclusions with regard to the social costs and benefits of serving this clientele. Since the 1992 data intentionally did not include larger and older enterprises, it

is not possible to compare social cost benefit ratios between different groups of IDH clients.

Section 8.3 expands the Kilby model of social cost benefit analysis by using a matching control group surveyed in 1992. The identification and survey methodology applied to the control group was explained in Section 5.1.4.

As further discussed in Section 8.5, it is possible to compare the social cost benefit ratios for the smallest and youngest IDH clients surveyed in 1992 with the IDH results from 1977 to 1982 as measured by Kilby. This comparison helps to explain some significant trends in the evolution of IDH policy and practice from 1982 to 1992.

## 8.2 Measuring Benefits

Following the methodology applied by Kilby, a minimum, maximum, and most likely range of economic benefits were estimated. These benefit ranges are summarized in Table 8.1

## Minimum Case:

### Step 1. Increase in direct value added

The increase in monthly value added was calculated from business inception in 1988, 1989 or 1990 to the survey at the end of 1992. It is assumed that this value added increased uniformly throughout this period. Following the Kilby model, no value added is extrapolated beyond the survey date and it is essentially assumed that the business stopped at the end of 1992. Based on the survey, it is estimated that the IDH clients generated 2,078,150 lempira of direct value added.

### Step 2. Reduce direct value added by the opportunity cost of labour

The opportunity cost of labour was calculated for all labour inputs, as follows:

\* Owner: shadow wage of 2 lempira per hour based on estimated hours worked. (This choice of a shadow wage of 2 lempira per hour was discussed in Section 6.1.)

\* Paid labour: Actual wages paid during the survey. (This is very close to the estimated shadow wage of 2 lempira per hour.)

\* Unpaid family labour: Shadow wage of 2 lempira per hour.

These calculations resulted in a total deduction of 261,508 lempira for the opportunity cost of labour.

Step 3. Training Benefits.

Training benefits were calculated at fifty percent of the wages paid to new apprentices. From survey question 22, it is not possible to identify which of the paid employees are new apprentices. Using the same assumptions as Kilby, it is assumed that twenty five percent of the paid labourers were new apprentices and the training benefit is applied to their wages. This results in an estimated training benefit of 14,040 lempira.

Maximum Case

Step 1. Increase in direct value added

Calculated in the same manner as the minimum case-2,078,150 lempira.

## Step 2. Deduct the opportunity cost of the owner's labour

Only the owner's labour is assumed to have an opportunity cost of labour. This is calculated at the informal sector shadow wage of 2 lempira per hour times the number of hours worked by the owner (question 20 of the survey). The total opportunity cost of the owner's labour is 149,188 lempira. In the maximum benefit case, Kilby assumes that there is substantial excess labour available in the economy and there is no opportunity cost for paid or unpaid labourers other than the owner.

This assumption seems reasonable in the Honduran context, where there was substantial unemployment and underemployment.

The economic context of Honduras from 1989 to 1992 was discussed in Sections 4.1 and 4.2.

## Step 3. Training Benefit

Training benefit is calculated in the same manner as the minimum case in the amount of 14,040 lempira.

## Step 4. Distribution Weight Benefit

An amount equal to fifty percent of paid wages is assumed by Kilby to be an income distribution weighting benefit. From the survey data, this results in a benefit of 56,160 lempira. Distribution weight benefits are included due the high levels of unemployment and underemployment that were present and the social benefit of having fewer idle people.

#### Step 5. Final Demand Linkage

Final demand linkage benefits are assumed to equal twenty percent of the increase in direct value added less interest paid. Kilby assumed this was the percentage of increased income that would be spent by consumers. Based on the surveys conducted, a 20 percent net margin is a reasonable average. This amounts to 406,196 using the IDH survey data.

#### Step 6. Net Backward Linkage

This represents the net backward linkage benefit for firms who produce the various intermediate inputs purchased by the firms surveyed. Kilby assumes that the net backward linkage is seventy percent of purchased inputs, except for retail activities for which no net backward linkage is assumed. It is assumed that purchases grow uniformly over the time period of the survey. In applying these measurements to the IDH clients surveyed, the net backward linkage is 1,743,280 lempira.



## Step 7. Consumer Benefits

There is no measurable evidence of consumer benefits due to increased competition or production efficiencies. This is because IDH lends to a wide variety of activities and there is no concentration in particular sectors or products which would produce any economies of scale or other competition effects which might benefit consumers. No consumer benefits were estimated in Kilby's previous analysis of IDH.

## Step 8. Diversion Benefits

This is the economic benefit obtained from diverting loans to other business or family activities which produce higher returns than the stated purposes set out in the loan documents. In the Kilby model, the loan diversion benefit is assumed to be ten percent of amounts lent. Kilby acknowledges that clients will not honestly answer questions about loan diversion and, therefore, it is necessary to use an arbitrary estimate. In applying this convention to the IDH survey, the ten percent loan diversion benefit amounts to 19,000 lempira.

## Most Likely Case

### Step 1. Increase in direct value added

The increase in direct value added is the same as in the minimum and maximum cases as calculated from the IDH survey data. This is 2,078,150 lempira.

### Step 2. Reduce direct value added by the opportunity cost of labour

To replicate Kilby's model, it is assumed that the opportunity cost of labour is one hundred percent of the owners' labour and fifty percent of other paid and unpaid labour calculated at the shadow wage. This results in a total opportunity cost of labour of 205,348 lempira which is the mid-point between the minimum and maximum case estimates. Based on the situation in Honduras, this seems to be a reasonable estimate.

### Step 3. Training Benefit

Training benefits are calculated in the same manner as the minimum and maximum case estimates of 14,040 lempira.

Step 4. Distribution Weight Benefits

Step 5. Final Demand Linkage

Step 6. Net Backward Linkage

Step 8. Diversion Benefits

In replicating Kilby's most likely case estimates, all these benefits are assumed to be fifty percent of the benefits calculated in the maximum case. Kilby explains that these mid point estimates were chosen arbitrarily due to the lack of survey information about these benefits. However, sensitivity analysis in Section 8.5 indicates that variations in these benefit estimates did not significantly change the cost benefit ratios.

Step 7. Consumer Benefits

No consumer benefits are estimated for reasons discussed under the maximum case estimate.

### 8.3 Use of Control Group

As indicated in Section 3.4, Kilby did not make use of a control group in calculating economic benefits. Although acknowledging the desirability of control groups in social cost benefit analysis, control groups were not a practical option because Kilby was limited to the use of previously completed survey data. He concluded:

...a final word about the future use of this type of methodology for estimating benefits. Where one is not limited to reanalysis of completed survey data, it is possible to improve the reliability of benefit measurements by entering additional items into the survey instrument and by conducting interviews with non-assisted firms (Kilby 1985:14).

As discussed in Section 5.1.4, a matching control group was planned as part of the research design. Therefore, it is possible to expand the model of social cost benefit analysis used by Kilby to determine net incremental economic benefits. This is done by subtracting the economic benefits generated by the matching control group of non-assisted firms from the economic benefits generated by the IDH loan clients. The net incremental benefits generated by the IDH loan recipients relative to the control group provides a better measurement of the economic impact of loans to the smallest and youngest firms. The resultant net incremental benefit helps to better answer the question of what would have happened if these loans had not been made.

The net incremental economic benefits are calculated in Table 8.1. The economic benefits of the 46 control group firms were calculated in exactly the same manner as for the 46 IDH clients as discussed in Section 8.2. This was done by developing a range of minimum, maximum, and most likely benefit measurements for the control group. Table 8.1 is derived by subtracting the most likely case economic benefits for the control group from the most likely case benefits calculated for the IDH clients.

Table 8.1: Range of Estimated Economic Benefits- IDH Clients  
(In Lempira)

	Minimum	Most Likely	Maximum
Value Added	2,078,150	2,078,150	2,078,150
Opportunity Cost of Labour	-261,508	-205,348	-149,188
Training Benefit	14,040	14,040	14,040
Distribution Weight	0	28,080	56,160
Final Demand Linkage	0	203,098	406,196
Backward Linkage	0	871,640	1,743,280
Diversion Benefit	0	9,500	19,000
Control Group:			
-Value Added	- 1,421,350	- 1,421,350	- 1,421,350
- Opportunity Cost of Labour	300,560	234,000	167,440
-Training Benefit	-16,640	-16,640	-16,640
-Distribution Weight	0	-33,280	-66,560
-Final Demand Linkage	0	- 142,135	-284,270
-Backward Linkage	0	- 785,715	-1,571,430
Total Net Benefits	693,252	834,040	974,828

Source: Computed from IDH Survey Data

The most likely case estimate of net benefits of 834,040 lempira is very close to the mid-point between maximum case and minimum case estimates of 833,000 lempira. Based on the information available in the survey, this mid-point estimate seems reasonable.

## 8.4 Measuring Costs

Costs are classified as administrative costs, bad debts, and capital erosion in the same manner as the Kilby model.

With respect to administrative costs, most of the cost for a specific loan is incurred in the year the loan is disbursed. This includes the evaluation of risk due to both client moral hazard and business factors. Since the IDH loans have relatively short terms ranging from six to twenty four months, very little cost would be incurred after the year of loan disbursement. For purposes of measuring the costs of the loans disbursed to the 46 clients in the IDH survey, it is reasonable to apply a standard convention in which all administrative costs incurred in a specific year relate only to loans disbursed in that year. In using this convention, the total administrative costs incurred in 1989 and 1990 for the 46 loans disbursed to the IDH clients surveyed were 32,154 lempira; the calculations are set out in Table 8.2.

Table 8.2: Administrative Costs for IDH Loans Disbursed in 1989 and 1990  
(In Lempira)

	1989	1990
1. Total Administration Costs (excludes bad debts)	416,000	508,000
2. Total Number of Loans Disbursed	675	637
3. Average Cost per Loan Disbursed (Line 1 ÷ Line 2)	616.30	797.49
4. Number of Clients in Survey	25	21
5. Estimated Administrative Costs -Clients in Survey (Line 3 x Line 4)	15,407	16,747

Source: Computed from IDH Annual Reports for 1989 and 1990

For bad debts, 43 of the 46 loans included in the IDH survey had been paid in full when the survey was completed at the end of 1992. Three loans were delinquent-survey numbers 19, 42, and 43. The loan for survey 19 had been written off in the amount of 4,000 lempira. The outcome of the loans for surveys 42 and 43 were not yet determinable and IDH expected to collect a portion of these loans. The assumption used in the Kilby model is that 50 per cent of these loans will become bad debts. Applying this assumption to the IDH survey data, the bad debt calculation is set out in Table 8.3.

Table 8.3: IDH Bad Debt Costs (In Lempira)

Loan Number	Principle Amount	Estimated Write off %	Estimated Bad Debt Cost
19	4,000	100	4,000
32	3,500	50	1,750
43	5,000	50	2,500
			8,250

Source: Computed from IDH Survey Data

With respect to capital erosion costs, these were estimated to be a total of 60,572 lempira as calculated in Table 8.4. These calculations were done in a similar manner to the Kilby model using a monthly capital erosion index times the amount of loans outstanding at the end of each month. The capital erosion index is defined as:

$$1-(1/1 + \text{inflation rate})$$

Kilby used annual inflation rates in his calculations of capital erosion costs. During Kilby's study period, 1977 to 1982, annual inflation ranged from six per cent to twelve per cent and the average annual inflation rate was approximately nine per cent. IDH loans had an average maturity of two years during this period and an average interest rate of twelve per cent.



The calculations of capital erosion shown in Table 8.4 are done on a monthly basis using indicated monthly inflation rates. These are the monthly changes in the Consumer Price Index-Urban as published by the ILO (ILO 1993). The Consumer Price Index for urban consumers was used because most of the IDH clients live in urban areas. The monthly inflation rate was used to calculate a monthly capital erosion index which was applied to the actual principle balance of loans outstanding at the end of each month. Due to the variability of monthly inflation in Honduras between 1989 and 1992, a monthly approach to calculating capital erosion provided more accurate measurements than annual calculations. During most of the 1980s, Honduran inflation averaged about eight to nine per cent per year. As a result, IDH charged average interest rates of 17 per cent per year through 1989. However, as discussed in Section 4.1, Honduran inflation rates increased dramatically in 1990 and 1991 to 23 per cent and 34 per cent, respectively. This increased inflation resulted primarily from a significant devaluation of the Honduran lempira to correct for its perceived overvaluation. The currency devaluation was intended to increase Honduran exports as part of an IMF structural adjustment programme. By early 1992, inflation had subsided, falling to nine per cent in 1992 and eight per cent in 1993.

However, the sudden increase in inflation in 1990 and 1991 caused considerable capital erosion in the IDH portfolio. The loans disbursed in

1989 at a 17 per cent interest rate had average maturities of about 18 months. Most of the capital erosion cost in Table 8.4 is applicable to the loans disbursed in 1989. By the first quarter of 1990, IDH was well aware that inflation had increased and that effective interest rates had to be adjusted to protect the portfolio from capital erosion. The board of IDH decided to increase annual interest rates from 17 per cent to 24 per cent. They also shortened loan terms from 18 months to 12 months. These actions reduced the negative impact of capital erosion for loans disbursed in 1990.

The significance of capital erosion for IDH during the period from 1989 to 1992 is apparent in Table 8.5 which compares the percentage composition of costs as calculated in this survey with the relative cost measurements done by Kilby for the period from 1977 to 1982. Capital erosion represents 60 per cent of total economic costs from 1989 to 1992 compared with only 32 per cent of costs as calculated by Kilby from 1977 to 1982.

Table 8.4: IDH Capital Erosion Costs, 1989 to 1992 (In Lempira)

Month	Loans Paid Out	Loans Received	Loans Outstanding	Inflation Rate	Capital Erosion Index	Capital Erosion
Jan-89	2000	0	2000	0.00988875	0.00979192	19.5838433
Feb-89	8000	0	10000	0.01162791	0.01149425	114.942529
Mar-89	11500	0	21500	0.0030248	0.00301568	64.8371532
Apr-89	0	0	21500	0.00482509	0.00480192	103.241297
May-89	0	0	21500	0.00780312	0.0077427	166.468136
Jun-89	0	0	21500	0.01131626	0.01118963	240.57715
Jul-89	16500	0	38000	0.01707892	0.01679213	638.100753
Aug-89	25500	0	63500	0.00694847	0.00690052	438.182864
Sep-89	4000	0	67500	0.00632547	0.00628571	424.285714
Oct-89	12500	0	80000	0.016	0.01574803	1259.84252
Nov-89	7500	0	87500	0.00787402	0.0078125	683.59375
Dec-89	12500	0	100000	0.00558036	0.00554939	554.938957
Jan-90	8738	2000	106738	0.02108768	0.02065217	2204.37174
Feb-90	0	5000	101738	0.03043478	0.02953586	3004.91983
Mar-90	3000	8500	96238	0.0100211	0.00992167	954.841775
Apr-90	5500	0	101738	0.04020888	0.03865462	3932.64357
May-90	0	3000	98738	0.01305221	0.01288404	1272.1447
Jun-90	17000	0	115738	0.02329039	0.02276029	2634.23051
Jul-90	10500	12000	114238	0.03196126	0.03097137	3538.10793
Aug-90	4000	4500	113738	0.01548569	0.01524954	1734.45194
Sep-90	3500	2000	115238	0.01432532	0.01412301	1627.50706
Oct-90	8700	4500	119438	0.05375854	0.051016	6093.24859
Nov-90	8000	12500	114938	0.03285776	0.03181247	3656.46212
Dec-90	21000	2000	133938	0.02888238	0.0280716	3759.85435
Jan-91	0	2500	131438	0.04109032	0.03946854	5187.66628
Feb-91	0	11000	120438	0.03516999	0.03397508	4091.89128
Mar-91	0	10000	110438	0.01321253	0.01304024	1440.13785
Apr-91	0	8000	102438	0.03278689	0.03174603	3252
May-91	0	0	102438	0.01154401	0.01141227	1169.04993
Jun-91	0	5500	96938	0.01783167	0.01751927	1698.28311
Jul-91	0	8500	88438	0.01611773	0.01586207	1402.80966
Aug-91	0	0	88438	0.01241379	0.01226158	1084.38965
Sep-91	0	0	88438	-0.0040872	-0.004104	-362.94665
Oct-91	0	18700	69738	0.00991792	0.00982052	684.863529
Nov-91	0	8000	61738	0.00812733	0.00806181	497.719852
Dec-91	0	19000	42738	0.00235136	0.00234584	100.256702
Jan-92	0	7500	35238	0.0016756	0.0016728	58.9461358
Feb-92	0	4000	31238	0.01104048	0.01091992	341.116479
Mar-92	0	8738	22500	0.00231635	0.00231099	51.9973589
Apr-92	0	0	22500	0.0102344	0.01013072	227.941176
May-92	0	0	22500	0.00392157	0.00390625	87.890625
Jun-92	0	5000	17500	0.00065104	0.00065062	11.3858165
Jul-92	0	0	17500	0.00553025	0.00549984	96.2471692
Aug-92	0	0	17500	0.00194112	0.00193736	33.9037778
Sep-92	0	0	17500	0.00096868	0.00096774	16.9354839
Oct-92	0	0	17500	0.00419355	0.00417604	73.0806296
Nov-92	0	0	17500	0.01188564	0.01174603	205.555556
Dec-92	0	17500	0	0.00888889	0.00881057	0
TOTAL CAPITAL EROSION						60572.5002

Source: Computed from IDH Survey Data  
ILO, Bulletin of Labour Statistics, 1993

Table 8.5: Comparison of IDH Cost Components, 1977 to 1982 and 1989 to 1992

	1989-1992 Cost in lempira	1989-1992 percentage	1977-1982 percentage Kilby *
Administration Costs	32,154	32	57
Bad Debts	8,250	8	11
Capital Erosion	60,572	60	32
Total Costs	100,976	100	100

Source: Computed from IDH Survey information.

\* Kilby (1985:61)

The significance of estimated capital erosion is also evident in comparing capital erosion costs as a percentage of amounts lent. For the loans to the smallest and youngest clients from 1989 to 1992, capital erosion represents approximately 32 per cent of amounts lent. Based on the Kilby measurements, capital erosion is only 19 per cent of amounts lent.

## 8.5 Summary of Results

Table 8.6 provides the cost benefit ratios for the impact of IDH loans to the smallest and youngest firms from 1989 to 1992.

Table 8.6: Summary of IDH Cost Benefit Ratios, 1989 to 1992  
(In Lempira)

	Minimum	Most Likely	Maximum
Direct Value Added	2,078,150	2,078,150	2,078,150
Control: -Value Added	-1,421,350	-1,421,350	-1,421,350
Direct Value Added	656,800	656,800	656,800
Opportunity Cost of Labour	-261,508	-205,348	-149,188
Control - Opportunity Cost of Labour	300,560	234,000	167,440
Net Value Added	695,852	685,452	675,440
Training Benefit	14,040	14,040	14,040
Distribution Weight	0	28,080	56,160
Final Demand Linkage	0	203,098	406,196
Backward Linkage	0	871,640	1,743,280
Diversion Benefit	0	9,500	19,000
Control:			
-Training Benefit	-16,640	-16,640	-16,640
-Distribution Weight	0	-33,280	-66,560
-Final Demand Linkage	0	-142,135	-284,270
-Backward Linkage	0	-785,715	-1,571,430
Total Benefits	693,252	834,040	974,828
Economic Costs	100,976	100,976	100,976
Ratios:			
Direct Value Added	6.505	6.505	6.505
Net Value Added	6.891	6.788	6.685
Total Benefits	6.866	8.260	9.654

Source: Computed from IDH Survey Data

Benefits and social cost benefit ratios are calculated for direct value added, net value added, and the total benefits. Net value added is calculated by subtracting the opportunity cost of labour from direct value added. The net incremental benefits are calculated by a deduction of control group benefits. As can be seen the cost benefit ratios all exceed one. The impact of credit provision exceeds and therefore justifies its costs. Sensitivity analysis shows that even in the minimum case scenario

the cost benefit ratio is substantially greater than one. The cost benefit ratios estimated here also potentially allow for comparison with other types of development initiatives.

It is also of interest to assess the importance of the inclusion of the control group. Table 8.7 shows the benefits generated by IDH clients without a deduction for the matching control group (left column) and for the net incremental benefits after deducting for the economic benefits generated by the matching control group of non-assisted firms (right column). In both cases, benefits are most likely case estimates.

Table 8.7: Comparison of IDH Cost Benefit Ratios with and without a Control Group (In Lempira)

	IDH Client Survey *	Net Incremental Benefits of IDH Clients in excess of Control Group **
Direct Value Added	2,078,150	656,800
Less Opportunity Cost of Labour	-205,348	28,672
Net Value Added	1,872,802	685,472
Training Benefit	14,040	-2,600
Distribution Weight	28,080	-5,200
External Economies		
Final demand linkage	203,098	60,963
Backward linkage	871,640	85,925
Consumer benefit	0	0
Diversion Benefit	9,500	9,500
Total Benefits	2,999,160	834,040
Economic Costs	100,976	100,976
<u>Ratios:</u>		
Direct Value Added	20.581	6.505
Net Value Added	18.547	6.788
Total Benefits	29.702	8.260

Source: Computed from IDH Survey information

\* IDH client benefits are from Table 8.1, column 3 most likely case estimates.

\*\* Net incremental benefits after deduction of control group benefits are from Table 8.5, column 3 most likely case estimates.

There are clearly significant differences in cost benefit ratios when the control group data is applied. The net cost benefit ratios generated by the IDH clients after deduction for the control group are about 30 per cent of the gross cost benefit ratios generated by the IDH clients. Conversely, the control group of non-assisted firms generated about 70 per cent of the economic benefits generated by the IDH loan recipients. The incremental difference in economic benefits attributable to the IDH loan is not more than about 30 per cent. The differences show clearly the need for a control group and that failure to use a control group can lead to significant over-estimation of cost benefit ratios.

Using a comparative framework similar to Kilby’s comparison across countries, it is possible to compare the cost benefit ratios from Table 8.6 as determined from the 1992 survey with the ratios calculated by Kilby for IDH from the 1977 to 1982 survey data. This is done by expressing the economic costs as 100 per cent and the various benefit components as a percentage of total costs. This comparison is provided in Table 8.8 based on most likely case benefit estimates.



Table 8.8: Comparison of IDH Cost Benefit Ratios (Benefit components expressed as a percentage of total costs)

	IDH Client Survey	Net Incremental Benefits of IDH Clients in Excess of Control Group	Kilby- IDH Clients from 1977 to 1982*
Direct Value Added	2,058.1	650.5	144.6
Less Opportunity Cost of Labour	-203.4	28.4	-111.0
Net Value Added	1,854.7	678.8	33.6
Training Benefit	13.9	-2.6	3.6
Distribution Weight	27.8	-5.1	9.7
External Economies			
Final demand linkage	201.1	60.4	29.0
Backward linkage	863.2	85.1	31.9
Consumer benefit	0	0	0
Diversion Benefit	9.4	9.4	16.7
Total Benefits	2,970.2	826.0	124.5
Economic Costs	100	100	100
<u>Ratios:</u>			
Direct Value Added	20.581	6.505	1.446
Net Value Added	18.547	6.788	.336
Total Benefits	29.702	8.260	1.245

Source: Computed from IDH survey information

\* From Kilby (1985: 109)

Can meaningful conclusions be drawn by comparing cost benefit ratios as measured for the IDH loans to the smallest and youngest clients from 1989 to 1992 with the IDH cost benefit ratios determined by Kilby for 1977 to 1982? The most significant comparison seems to be the large relative increase in the ratios of direct value added and net value added after deducting the opportunity cost of labour. Without deducting the control group's net benefits, these ratios are 20.6 and 18.6 for 1989 to 1992 and only 1.5 and .34 for 1977 to 1982. This comparison indicates a 14-fold increase in the direct value added ratio and 54-fold increase in the net value added ratio. To understand these differences, it is necessary to

examine the evolution of IDH during the 1980s. This narrative begins in Chapter 5 on IDH in Kilby "Searching for Benefits" and it is based on background information provided by IDH. The primary information available to Kilby was a 1983 impact evaluation of IDH done by Peter H. Frazer and Bruce A. Trippet (Frazer and Trippet 1983). This document notes that IDH made 161 loans from 1977 to 1982. Frazer and Trippet selected 69 of these clients for a survey which was done in 1983. These surveys form the basis for the benefit measurements done by Kilby. The results of these 69 studies are extrapolated to encompass all of the loans made by IDH from 1977 to 1982.

In comparing the Frazer and Trippet evaluation from 1977 to 1982 with the information available for 1989 to 1992, it is clear that the IDH target clients changed dramatically. Relative loan sizes were intentionally reduced. This resulted in attracting smaller enterprises and poorer clients. Frazer and Trippet noted in 1982 that the average IDH client employed 5.5 people including the owner(s). Only 13 per cent of the clients were solely owner operated. There were no start-up enterprises and only 19 per cent of the clients were women. They also noted that IDH did not make any loans to retail vendors during this period. Most of the IDH clients were not members of the lowest half of the economic strata and roughly one third of the clients were deemed to be bankable. They compared the IDH client profile with a larger nationwide survey done in 1979 (Stallman and Pease

1979) and concluded that the IDH “clients were at the top end of the micro-enterprise sector.” Stallman and Pease (1979) calculated that the average micro-enterprise in Honduras employed 2.2 people including the owner(s).

Interviews with IDH board members and executives indicate that IDH changed its strategy during the mid-1980s. They reduced loan sizes to expand their outreach to more clients. They also increased their focus on poorer target clients, women, and start-up enterprises. In addition, they also increased the proportion of loans to informal sector retail vendors which tended to be among the poorer segments of the population. During 1989 and 1990, IDH made a total of 1,323 loans amounting to 5.6 million lempira. Table 8.9 compares the client profile information determined by Frazer and Trippet from 1977 to 1982 with the general client profile for all loans disbursed in 1989 and 1990 and with the profile of the 46 clients surveyed in 1992 which were deemed to be the “smallest and youngest.”

Table 8.9: Comparison of IDH Client Profiles 1977 to 1992

	All loans disbursed 1977- 1982(a)	All loans disbursed 1989+1990(b)	1992 Survey of "Smallest and Youngest Firms" (c)
Number of Loans	161	1,323	46
Avg. loan size (d)	13,893	4,240	4,130
Avg. employees	5.50	2.61	1.52
% women	19	48	59
% Retail vendors	0	10	12
% Sole Owner Operator	9	40	61
% Start-ups	0	8	72
Pre-loan avg. monthly income (d)	1,372	845	672

Sources: (a) Frazer and Trippet, 1983  
(b) IDH Annual Reports for 1989 and 1990  
(c) IDH Client Survey  
(d) Adjusted to 1989 lempira value

Due to the decline in average loan size during the 1980s, IDH had to become more efficient in disbursing and collecting its loans. Management was under pressure to improve its cost recovery ratios which are defined as the percentage of administrative costs and loan losses being covered by income earned from clients. As a result, it was critical for IDH to reduce its average administrative cost per loan. This is evident from the comparison in Table 8.10.

Table 8.10: Comparison of IDH Average Administrative Costs 1977 to 1992 (1989 Constant Lempira)

	All Loans Disbursed 1977-1982 (a)	All Loans Disbursed 1989+1990 (b)
Number of Loans Disbursed	161	1,323
Amount Disbursed	2,236,773	5,609,000
Total Administration Costs (*)	727,220	924,000
Cost per Loan	4,517	698
Cost per Lempira Lent	0.33	0.16
Average Loan Size	13,893	4,240

Sources: (a) Frazer and Trippet, 1983

(b) IDH Annual Reports for 1989 and 1990

\* Excluding bad debts.

It is reasonable to conclude that a significant portion of the increase in the ratios of direct value added benefits and net value added benefits to costs (Table 8.8) is due to the reduction in unit administrative costs as shown in Table 8.10. Real costs per loan disbursed were reduced by almost 85 per cent from 4,517 lempira to 698 lempira per loan. Even with a reduction of almost 70 per cent in the real average loan size, the unit cost per lempira lent was reduced by over 50 per cent from 0.33 to 0.16. This was an important lesson learnt by IDH and one that has been learnt by most successful micro-finance institutions. Management of IDH attributed the improved administrative efficiency between the early 1980s and early 1990s to increased confidence in their loan methodology and better knowledge of their market. As a result, loan approval times were reduced due to less processing and analysis and the caseload per staff member more than tripled.

The pressure to reduce unit administrative costs results from the need to be financially sustainable. The focus on sustainability is often imposed upon micro-finance institutions by donors. Although often criticized by practitioners, the focus on financial sustainability has become institutionalized as an industry best practice which has forced micro-finance institutions to develop financial disciplines and operational efficiencies which lower unit administrative costs. It is clear that lower unit administrative costs directly contribute to increases in social cost benefit ratios.

It is also evident that a focus on smaller loans made to smaller and younger firms leads to higher ratios of direct value added and net value added benefits in relation to the economic costs incurred. This is clear in Kilby's work in "Searching for Benefits." The comparative benefit statistics in Table 31 (page 109) indicate that the two programmes in the Dominican Republic (DDF-M and DDF-S) were the only institutions which produced net value added benefits in excess of costs. It is noted that these two programmes had the lowest average loan sizes. Also, the IDH impact evaluation done by Frazer and Trippet (Frazer and Trippet 1983) notes that the smaller loans surveyed from 1977 to 1982 appeared to produce more relative sales growth and a lower job cost per dollar lent than the larger loans.

As evidenced by the change in IDH client profiles during the 1980s (Table 8.9), IDH clearly changed its strategy to focus on smaller loans to smaller and younger firms. The IDH board and management believed that smaller loans would have more relative economic and social impact. Although they were trying to reach poorer people, they were also trying to reach higher rates of sustainability via higher relative interest rates. The strategic change to smaller loans is a significant factor underlying the increased ratios of direct value added and net value added benefits in relation to costs as shown in Table 8.8. IDH has continued to apply this strategy throughout the 1990s. According to the IDH Annual Report for 2000, the average loan size for 2000 is about 60% per cent lower (adjusted for inflation) than the average loan size in 1989 and 1990.

Although the changes in comparative cost benefit ratios for direct value added and net value added after deducting for the opportunity cost of labour are the most notable, other conclusions resulting from the comparative benefit ratios are:

1. The change to smaller and younger firms did not increase relative bad debt ratios. Actual bad debts from 1977 to 1982 were seven per cent of loans disbursed by IDH. For loans to the smallest and youngest firms from 1989 to 1992, actual bad debts were only four per cent of loans disbursed.

2. As indicated in Section 5.3.5, business closure rates for the smallest and youngest IDH clients were relatively high at 26 per cent. Twelve of the 46 firms surveyed had ceased trading by the end of 1992 when the survey was conducted. This is higher than the 13 per cent closure rate for firms to which loans were disbursed by IDH from 1977 to 1982. Nonetheless, despite higher closure rates, bad debt ratios were actually lower. Most of the smallest and youngest firms which had closed managed to repay their loans.

3. The smallest and youngest firms surveyed for 1989 to 1992 did not produce much paid employment for others. This is noted and discussed in Section 6.3. As a result, the benefit estimates for training benefits and distribution benefits are relatively smaller than the larger firms surveyed for 1977 to 1982.



## 8.6 Critique of Methodology

The methodology of applying social cost benefit analysis to micro-finance institutions as developed by Kilby is valuable in comparing different institutions, programme strategies and groups of target clients. It could be useful to donors in comparing the relative impacts of programmes in the same country and across countries. As discussed in Section 8.5, this methodology is also helpful in evaluating the evolution of a micro-finance institution over time. Comparing the changes in cost benefit ratios and the various sub components for IDH from 1977 to 1982 and from 1989 to 1992 provided insight into the impact of the strategic change to smaller loans made to smaller, younger and poorer clients.

However, as discussed in Section 8.3 and 8.5, benefit levels may be greatly overstated without the use of control groups to measure net incremental impact. Although time consuming, the method used for identifying a matching control group as applied in Section 5.1.4 was relatively simple and cost effective. The control group was made part of the research design in manner intended to enhance the accuracy of the social cost benefit estimates. This approach to control groups could make social cost benefit analysis a more useful tool in the evolution of the micro-finance research. This successful application of a control group

contributes to overcoming a significant limitation of social cost benefit analysis as discussed by Kilby.

However, Kilby also noted that a control group might tend to underestimate the net benefits of loans to micro-enterprises. The primary reason for this concern is that “loan recipients may be diverting a portion of their loan to nondesignated uses, perhaps with a higher value added payoff, all of which goes unreported” (Kilby 1985:9). He also noted that closed firms tend to be underrepresented in control groups which is further discussed in Section 5.3.5. This tendency for closed firms to be underrepresented in control groups also understates the net incremental benefits generated by loan recipients for which there is a more realistic identification of closed firms.

These shortcomings in the use of control group measurements may be considered limitations of this research methodology. However, these limitations tend to reduce the net economic benefits estimated for loan recipients and make the resulting social cost benefit ratios more conservative. Despite these shortcomings, this approach seems to expand the Kilby model and provides a more realistic measurement of net economic benefits.

Another criticism concerns the straight-line time convention used by Kilby in estimating the growth of value added over time. This convention assumes value added grows uniformly over time. This time convention was also applied in this research to replicate Kilby's methodology. However, there is evidence that growth is not uniform over time. This is especially true of the smallest and youngest firms (Liedholm and Mead 1991). As discussed in Section 6.6, credit is an accelerator of business growth and most growth happens near the time of loan disbursement when the new capital is actually invested. Testing straight line vs. accelerator growth models would require detailed longitudinal study with frequent measurement points. This type of longitudinal study was beyond the objectives of this research. Kilby's straight-line convention was simply replicated. A similar concern relates to the assumption that there are no economic benefits after the survey date. Although it is difficult to estimate future income to be generated by micro-enterprises, there is evidence that many such firms continue to produce income for a long time. The estimation of future value added benefits would also require more extensive longitudinal study.

A further criticism concerns the reduction of direct value added by the opportunity cost of labour. Even in Kilby's measurement of maximum benefit levels, direct value added is reduced by the owner's opportunity cost of labour using a theory of a "ladder of job step up" (Kilby 1985:10).

In the case of IDH, this approach seems appropriate for the type of clients to which IDH was making loans from 1977 to 1982. They were in an economic position where they generally had alternative employment opportunities. However, during 1989 and 1990, many of the smallest and youngest clients to which IDH was making loans had been unemployed. There was significant excess labour in the both the urban and rural sectors. Although the Kilby model was replicated in this research, the assumptions used to measure the opportunity cost of labour must be questioned both for IDH and other micro-finance institutions making loans to the poorest sectors. The same question applies to the calculation of distribution weight benefits. The Kilby model only assumes income distribution benefits for wages paid to employees. No distribution benefits are assumed for the owner. This raises the question of whether there might also be distribution weight benefits generated by creating self-employment for the smallest and poorest entrepreneurs? However, some of these limitations can be overcome by sensitivity analysis carried out in computing the cost benefit ratio by using varying assumptions (minimum, maximum, most likely cases) and various measures of benefits (direct value added, net value added, total benefits). In comparing these various cost benefit ratios, it may be clear, as in Table 8.6, the approximate range in which the ratios lie, regardless of the particulars of the assumptions.

### SUMMARY AND CONCLUSIONS

#### 9.1 Summary of Results on the Direct Impact of IDH Loans to the Smallest and Youngest Micro-enterprises

Credit programmes to assist micro-enterprises can be usefully classified as being involved in either enterprise formation, enterprise expansion, or enterprise graduation (Martinez 1990). Most successful micro-finance institutions have focused on credit for enterprise expansion. This market for enterprise expansion credit permits outreach to a large number of clients via short-term loans which are primarily for working capital. This is perceived as the best way to build a financially sustainable micro-finance institution because enterprise expansion loans minimize risk and maximize profitability. Many micro-finance institutions perceive credit for enterprise formation as too costly and/or too risky.

This study aimed to develop an understanding of the direct impact of enterprise formation loans provided to the smallest and youngest micro-enterprises. This was done by examining the direct impact of individual

enterprise formation loans made by IDH in Honduras during the period from 1989 to 1992. A survey was done of 46 IDH clients who qualified as the smallest and youngest firms based on pre-defined criteria. To make reasonably reliable estimates of the direct impact of credit provided to these firms, it was necessary to gather similar information for a matching control group who did not have access to credit from a formal lending institution. The control group was selected in a manner which ensured identification of smallest and youngest firms similar to the IDH clients.

As discussed in Section 4.3, IDH provided other services that were connected to its loans. These other services included formal training courses, informal consulting by project officers, and networking with other clients. These other services were related to IDH's holistic Christian view of development. The motivation for a holistic Christian view of development is discussed in Section 2.4. This study did not attempt to distinguish between the effects of lending services and other non-lending services.

Various statistical analyses were done with the survey data for the IDH clients and the control group. The analyses included both personal variables and enterprise variables. Based on baseline tests of the defined variables described in Sections 5.2 and 5.3, there were no statistically significant differences in the composition of the two groups with respect to prior income, age, years of experience, previously having owned a

business, gender, religion, industry type or number of employees. The groups did have a mean difference in years of education that was just statistically significant, but was of relatively small absolute value. Access to credit from IDH was the most significant variable differentiating the two groups. As documented in Chapter 6, statistical t tests of differences in group means and differences in group proportions were done to analyze differences in the two groups. The IDH clients had a higher mean level of monthly value added than the control group. The difference was statistically significant at the 5 percent level.

As indicated in Table 6.3, the cumulative mean increase in real monthly income adjusted for inflation was 39.4 percent for the IDH clients and 9.8 percent for the control group. Growth in the real level of income enabled the IDH clients to improve their relative earnings in comparison with the economy as a whole. The mean income of the IDH clients increased from 58 percent of the average monthly formal sector wage in 1989 to 93 percent of the average monthly formal sector wage in 1992. The IDH clients also improved their position relative to the absolute poverty line. Average mean income increased from 2.3 times the level of absolute poverty in 1989 to 3.5 times the absolute poverty level in 1992.

These results confirm that credit provided to the smallest and youngest firms had a positive direct impact on income and income growth.

For purposes of this study, productivity was defined as value added per hour worked by the enterprise owner. The statistical results indicate that the IDH clients generated 9.23 lempira of mean value added per hour worked by the owner and the control group enterprises generated only 5.58 lempira of mean value added per hour. This difference in mean is statistically significant at the 5 percent level. A model developed by Liedholm and Mead (1987) which calculated the return per hour of family labour was replicated for the IDH clients and the control group. The mean return per hour of family labour was 3.95 lempira for the IDH clients and 1.41 lempira for the control group. These differences show a direct positive association between access to credit by the smallest and youngest firms and their level of productivity.

Although the smallest and youngest clients were able to use credit to increase income and productivity, Section 6.4 concludes that there is no evidence that credit led to the creation of paid employment. Table 6.5 shows that both the IDH clients and the control group had a net reduction in the mean number of paid employees from business inception until the survey at the end of 1992. The decline was higher for the control group, however. The decline in paid employees within the IDH group is contrary to intentions when the IDH loan applications were completed. At that time, the mean level of expected new paid jobs was 0.76 per enterprise. The



increased use of unpaid family labour is the most likely reason for the decline in the mean number of paid employees for both the IDH clients and the control group.

The inconsistency between the pre-loan hiring plans of the IDH clients and the actual decline in the number of paid employees can be partially explained by the economic environment encountered by micro-enterprises in Honduras during this period. The number of micro-enterprises was growing faster than the market for their goods and services. This was confirmed in a study of the micro-enterprise sector in March 1990 and March 1991 (Nathan 1991). This study did not find any increase in average employment per micro-enterprise. However, it noted a large increase in the number of micro-enterprises in the specific markets surveyed. To maintain total family income levels in this environment, it seems that many micro-enterprises substituted unpaid family labour for hired workers to whom cash wages would have to be paid.

As indicated in Section 6.5, this study used the poverty gap model and the impact possibility frontier developed by Hulme and Mosley (1996) to analyze whether the IDH enterprise formation loans had an impact in reducing poverty. Due to the relatively large loan sizes, the poorest potential clients who are not able to accept the risk tended to be excluded. The IDH enterprise formation loans examined in this study

averaged 160 percent of GDP per capita in Honduras. This is quite high compared with micro-enterprise programmes that try to attract poorer borrowers with initial loan sizes that are less than 50 percent of GDP per capita. As a result of the relatively large fixed loan sizes used by IDH, only 28 percent of the clients had incomes below the poverty line at the time of the loan. Nevertheless, the formation of the enterprises enabled by the loan was relatively successful in reducing poverty. Of the 13 clients who had incomes at or below the poverty line, 12 had incomes above the poverty line by the time the survey was completed.

Hulme and Mosley (1996) propose one approach whereby lending programmes can close the poverty gap: where entrepreneurs face an upwardly sloping impact possibility frontier, a high proportion of total clients who have incomes below the poverty line are needed to achieve substantial poverty reduction. Income growth from the first loan may be minimal and multiple loan cycles with increasingly larger loan sizes are needed to move clients above the poverty line. However, for the IDH clients in this study, the impact possibility frontier was not upwardly sloping. Consequently, a single enterprise formation loan was capable of moving entrepreneurs from below to above the poverty line. Although the degree of poverty reduction could, of course, be improved by increasing the proportion of poor to whom enterprise formation loans are given, the

results here suggest that credit provision can be useful in achieving some degree of poverty reduction.

In Section 6.6, the IDH enterprise formation loans are discussed in relation to the 'protectional' vs. 'promotional' classification developed by Dreze and Sen (1997) and the 'capital widening' vs. 'capital deepening' classification developed by Hulme and Mosley (1996). The IDH loans were clearly intended for 'promotional' objectives of enterprise development, asset acquisition, and income growth. As a result, these loans were not designed for 'protectional' purposes as needed to attract the poorest potential clients who cannot absorb the risk of larger promotional loans. The IDH loans were clearly used for 'capital widening' since they expanded the stock of capital being applied with existing technology and there was no evidence of new technology. The capital widening model (Hulme and Mosley 1996) reasons that these loans are not able to produce continuous long term growth because new technology is not used to increase productivity. Even if these loans were not able to produce continuous growth, the IDH enterprise formation loans had a direct impact as an accelerator of growth for the smallest and youngest enterprise studied.

Multiple linear regression analysis was applied in Chapter 7 to determine if any other pre-defined enterprise or personal variables were more significant than access to credit in explaining growth in value added or

confounded the relationship between access to credit and value added. Using an iterative process, thirteen variables were tested. The loan from IDH was one of only two variables that had a consistently high association with value added growth. This confirmed the results of Chapter 6. The other significant variable was prior ownership of a different business which is discussed in Section 9.2.

However, does the impact of credit provided to the smallest and youngest firms justify the costs? This was tested in Chapter 8 via social cost benefit analysis. A model of social cost benefit analysis developed by Kilby (1985) was replicated and expanded. A social cost benefit analysis was done for the 46 IDH loans for the period from 1989 to 1992 in this study and the results were compared with the results derived by Kilby in a social cost benefit analysis of IDH for the period from 1977 to 1982. This comparison (Table 8.8) shows the effect of IDH's change in strategy during the 1980s in which they tried to make a larger number of smaller loans to smaller, younger and poorer clients. The cost benefit ratios for direct value added increases and net value added (after deduction for the opportunity cost of labour) increased by factors of 14 times and 55 times, respectively, in comparison with the Kilby study. The total cost benefit ratio increased from 1.245 in the Kilby study to 29.702 for the smallest and youngest firms surveyed from 1989 to 1992. This confirms other research that the

smallest and youngest enterprises have higher rates of growth than older and more mature firms (Simon and Bonni 1958, Bates 1989).

Whilst 26 percent of the smallest and youngest firms surveyed had ceased operation by the end of 1992, the Kilby study of IDH clients from 1977 to 1982 found that only 13 percent had closed. Notwithstanding the higher closure rates, the bad debt ratio for the smallest and youngest IDH clients in the 1992 survey was less than the IDH bad debt ratio during the period from 1977 to 1982 when loans were made to relatively larger firms.

The social cost benefit comparison also showed the significance of reduced administrative expenditures. Adjusted for inflation, IDH administrative expenditures per loan were reduced by 85 percent during the 1980s. The unit cost per lempira lent was reduced by over 50 percent. The improved administrative efficiency as measured by administrative costs per lempira lent is a significant factor in the overall improvement in the social cost benefit ratios.

Management of IDH attributed the improved administrative efficiency between the early 1980s and early 1990s to increased confidence in their loan methodology and better knowledge of their market. As a result, loan approval times were reduced due to less processing and analysis and the caseload per staff member more than tripled.

## 9.2 Summary of Results on the Role of Personal and Enterprise Variables

Due to the limited empirical research available on the role of personal and enterprise variables in the growth and dynamics of the smallest and youngest firms, multiple linear regression analysis was applied to determine if any personal or enterprise variables were associated with growth in value added. As discussed in Chapter 7, thirteen personal and enterprise variables were defined and tested for the IDH clients and the control group. This included nine personal variables and four enterprise variables. Four of these variables are linear and nine are dummy classification variables. Only two variables were consistently significantly associated with value added growth at the 5 percent level. These variables were access to credit from IDH and whether the person had previously owned another business. Nine members of the control group and eight IDH clients indicated in the survey that they had owned another business prior to starting the one for which the survey was conducted. Ownership of a prior business was negatively associated with value added. Those who previously owned another business had less value added growth than the other smallest and youngest micro-enterprises. This confirms other research (Bates 1989) which indicates that management failures or personal shortcomings which resulted in the closure of the prior business

are likely to be repeated. Also, starting multiple income producing activities may be attributed to efforts to diversify household income sources. While this kind of household income diversification strategy may increase security of poor households, none of the individual business activities is able to develop very far as a result of divided capital and effort.

### 9.3 Concluding Remarks on Research Methodology

Section 3.2 discussed some of the problems encountered by researchers conducting ex-post facto field research on micro-enterprises. This study was designed to overcome or minimize as many of these problems as possible. In particular, this study makes an original contribution in micro-enterprise research methodology by using a matching control group of smallest and youngest firms. Chapter 5 describes the research design and selection of the control group. The control group survey information was critical to all the statistical tests and conclusions discussed in Chapters 6, 7, and 8. Without control group information, it would not be possible to determine if access to credit had a direct impact on the growth of the smallest and youngest firms. Also, the results of applying social cost

benefit analysis in Chapter 8 are more meaningful and accurate with control group information. The use of the control group is a significant expansion of Kilby's model (Kilby 1985). This leads to the conclusion that social cost benefit analysis of micro-enterprise assistance will tend to significantly overstate economic benefits if control group information is not utilized. The risk of overstatement without the use of control groups is especially true in a macro-economic environment where total demand is growing. As indicated in Section 4.2, it is also applicable in the early stages of an economic downturn such as Honduras was experiencing in 1991-1992. The implications of using control groups during prolonged or severe economic downturns are not clear and, as suggested in Section 9.4 below, more research may be needed regarding the impact of micro-finance during periods of economic decline.

Section 5.1.4 explained that the procedure used in selecting a matching control group of the smallest and youngest firms who did not have access to credit from a formal lender was slow and time consuming. However, the statistical results obtained indicate that the collection of matching control group information was a necessary and worthwhile research investment.

Rather than dismissing control group information as too costly and difficult to collect, it is important that micro-enterprise researchers and practitioners develop simple ways of obtaining control group information in impact research and evaluation.



Notwithstanding the general importance of using control groups in micro-enterprise research, as discussed in Section 3.2.3, there are limitations which must be considered. These include the tendency of control group participants to be less open and honest than client research subjects (Kilby 1985, Kobb 1997). The control group participants have not had a prior relationship with the micro-finance institution and they will not have the same level of trust as clients. Also, there is a risk of self-selection sample censoring (Kobb 1997) if control group members decided not to work with the micro-finance institution or if they had been rejected by the micro-finance institution<sup>1</sup>.

These limitations tend to understate control group results and, therefore, they overstate the net incremental client impact. These limitations may be offset by two other limiting factors typically encountered in using control groups, which tend to the opposite direction and have the effect of understating net client impact. These are the tendency to understate the increase in client income resulting from loan diversion, as mentioned by Kilby (1985) and the tendency to have an under-representation of closed firms in door to door control group selection as discussed in Section 5.1.4.

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<sup>1</sup> This risk did not exist in the control group selected for this survey. None of the control group participants was familiar with or had any prior relationship with IDH.

Another conclusion regarding research methodology relates to the selection and estimation of monthly value added as the primary measure of enterprise income. All micro-enterprise field research has been inhibited by the lack of financial records and the tendency to commingle business and personal funds (Boomgard 1991, Kilby 1985, Liedholm and Mead 1991). Therefore, researchers have to rely on the owners' memory and estimation as the primary sources of financial information. Based on the experience of this study, value added seems to be a good measure of income for which information can be reasonably gathered. Estimation of value added starts with sales turnover. This can be estimated based on the owner's recall of the number of units or quantity of goods sold in a typical time period, such as a month. Recall of sales turnover tends to be more accurate than recall of other income measurements (Liedholm and Mead 1991). Also, subjects have less motivation to lie about sales turnover than about net income measurements that may have income tax implications. For most types of micro-enterprises, it is fairly simple for both research subjects and researchers to estimate the cost of purchased inputs to be deducted from sales turnover in computing value added. Value added is also the measure of national income benefits used in theoretical models of social cost benefit analysis. For these reasons, it is usually not necessary or constructive to use more refined measures of enterprise net income than value added as used in this study.

## 9.4 Further Research Issues

As indicated in Section 1.2, there is a general lack of empirical research on the impact of extending credit to micro-enterprises, especially with regard to the impact of enterprise formation loans to the smallest and youngest micro-enterprises. The lack of research may be partially attributable to what Rogaly calls “micro-finance evangelism” (Rogaly 1996). Micro-finance evangelism assumes that the poor immediately benefit from credit and that the only important issues are broader outreach to more poor people and the sustainability/profitability of micro-finance institutions. This view is based on a minimalist model of micro-finance as discussed in Section 2.3.2. A minimalist approach is justified on the basis of client demand and it presumes there must be a positive economic impact from loans at the interest rates being charged or the poor would not borrow from micro-finance institutions. Adherents to a minimalist model and to “micro-finance evangelism” have discredited traditional impact assessment which measures changes in income or well being (Rogaly 1996). However, there are several academics who argue that micro-finance cannot be assumed to reduce poverty just because institutions achieve high levels of

outreach or almost perfect repayment rates (Copestake 1995, Rogaly 1996).

This study aimed to contribute original empirical research on the direct impact of credit provided to the smallest and youngest micro-enterprises. A control group was used to provide statistical validity and rigour and to contribute a reasonably simple and replicable method to improve micro-enterprise impact research. A primary conclusion with respect to further research is simply a call for micro-finance practitioners, donors, policy makers and researchers to undertake more empirical research on the impact of loans and other micro-finance services. Nothing has really changed since Kilby's conclusion in 1985 that "micro-finance schemes have the potential to be among the most effective of all types of development programs and foreign aid expenditures" (Kilby 1985: 1).

Despite increasing levels of expenditure being committed to micro-finance over the past thirty years, there has not been enough empirical impact research to determine the overall effectiveness of micro-finance. Social cost benefit models need to be developed and expanded to help practitioners understand the impact of micro-finance on their clients and to facilitate comparisons between different micro-finance institutions, different methodologies, and different target populations. If meaningful impact data can be obtained, managers of micro-finance will be better able

to design and alter products and services to better meet the needs of clients. Also, meaningful impact comparisons between different institutions, different methodologies and different target populations will help policy makers, donors, and practitioners to better allocate resources to improve the overall effectiveness of micro-finance.

Based on the review of micro-finance impact research in Chapter 3, it is clear that there are no common standards or generally accepted practices in micro-finance impact assessment. There is a need for the micro-finance industry to agree on a common set of standards and guidelines for impact assessment. Whilst the AIMS project sponsored by USAID has provided a major contribution towards documenting various practices that are used in micro-finance impact assessment, further research and policy debate is needed to develop a generally accepted set of best practices in impact assessment.

Most impact assessments are done by the implementing micro-finance institution or a sponsoring agency. There is usually a strong bias in favour of documenting a positive impact to justify the project expenditure or investment made. Published impact assessments rarely have any independent review or verification. Combined with the lack of any generally accepted standards regarding the measurement of impact, the lack of independent verification calls into question the meaningfulness of most

impact assessment. As suggested by Cheston and Reed (1998), further research is needed to determine if the micro-finance industry should use independent reviewers to 'audit' impact assessments.

A specific area for further social cost benefit research is to compare the impact of enterprise formation loans with enterprise expansion loans.

Although this study concluded that enterprise formation loans to the smallest and youngest firms had a positive social cost benefit ratio, further research is needed to make meaningful comparisons with other types of loans. Since most micro-finance institutions concentrate on making small short-term working capital loans to existing enterprises, it is necessary to compare the impact of enterprise expansion loans with enterprise formation loans which are perceived as being inherently more risky and more expensive. Such a comparison might be helpful in encouraging micro-finance institutions to alter policies towards a higher proportion of enterprise formation loans.

Similar impact comparisons between individual and group lending methodologies would also be useful. The focus on large outreach results in group methodologies being most prevalent because they can reach more people. However, there is concern that group methods treat all clients as homogeneous and standardized group procedures limit client potential (Copestake 1996, Montgomery 1995). Standardized and inflexible group

loan policies are a common explanation for high drop out rates in many group micro-loan schemes. Individual loan schemes are considered to be more tailored to client needs (Churchill 1999). Social cost benefit analysis comparing individual and group loans could shed more light on this issue.

Based on some recent impact evaluations, there is concern that the less poor the borrower, the greater the increase in income from a micro-enterprise loan (Gamser 2000, Hulme and Mosley, 1996). Some of the poorest borrowers become worse off as a result of micro-enterprise credit (Hulme and Mosley 1996, Montgomery 1995). The impact of credit on the poorest borrowers should also be tested in a statistically rigorous manner using the tools of social cost benefit analysis. As discussed in Section 7.2, income level prior to the loan did not have a statistically meaningful effect on performance after the loan; however, the IDH client group from 1989 to 1992 was not an especially poor population.

Further research should also be done to refine the application of social cost benefit analysis to the study of micro-finance impact. This would involve further study and testing on several of the key assumptions used in the Kilby model (Kilby 1985).

1. Conduct more frequent longitudinal study of how and when micro-enterprises grow in relation to the investment of capital. (This information

could refine the straight-line growth convention used by Kilby and replicated in this study);

2. Refine assumptions about external economies based on empirical research related to actual final demand linkages and net forward linkages;

3. Refine assumptions and approaches to estimating and weighting for the opportunity cost of labour, training benefits, and distribution of income benefits. This will require further research on how micro-finance affects the poorest segments of the population.

As indicated in Section 7.4, the study of personal variables did not try to measure internal variables such as attitudes, energy level, values or motivations. Such internal variables may be significant factors in predicting entrepreneurial success and enterprise growth. Further research is needed to measure the impact of internal variables on micro-entrepreneurs and to determine if there are positive associations between specific internal variables and enterprise growth.

Both Leidholm and Mead (1991) and Boomgard (1992) indicate there has been very little research on the closure of micro-enterprises. Although this study included some information on business closure as discussed in Section 5.3.5, this is an area where further research is also needed. Such



research might lead to a better understanding of the negative association discovered in this study between a micro-entrepreneur having owned a previous business and the growth of their new enterprise.

Being restricted to one country, this study did not attempt to examine the impact of different economic, social, political, policy or institutional environments on the growth and success of micro-enterprises. These areas require further research to determine if there are particular environments or policies that are most conducive to the success of micro-enterprises and especially to their potential impact in reducing poverty.

As discussed in Sections 4.1 and 4.2, this study was conducted during the early stages of a relatively mild economic downturn. While overall demand was slowing, it appeared that demand for micro-enterprise goods and services was reasonably stable. There is a need for further research to determine the impact of micro-finance services during periods of severe or prolonged economic decline. If total demand is falling, does support for specific micro-enterprises simply come at the expense of all other non-assisted micro-enterprises and, therefore, there is no net overall benefit to the economy or society (Hulme 2000)?

Finally, as noted in Section 5.1.1, this study did not attempt to distinguish between the impact of lending and non-lending services. IDH, in addition to

providing credit, also provides a range of non-lending services that are seen as part of its holistic Christian approach. These services include training on management and business topics, spiritual and pastoral guidance, leadership training and values formation. Consequently, the impact analysis conducted in this study was a test of the joint effectiveness of both these types of services. Further research could usefully examine the relative impact of these lending and non-lending services. A rigorous quantitative study on the impact of non-lending services would be useful in enabling micro-finance institutions to determine how to best allocate resources. Resource limitations and the need for financial sustainability are often given as reasons that micro-finance institutions cannot afford to undertake non-lending transformational services. Action research could be undertaken to examine different models of transferring some of the costs of providing non-lending holistic transformation services to clients or other groups such as churches or philanthropists.

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## Annex I: Survey Document

(English Translation of Spanish Survey Document)

December 1992

HONDURAS MICROENTERPRISE SURVEY

Survey Number \_\_\_\_\_

Date \_\_\_\_\_

Interviewer \_\_\_\_\_

### Introduction:

Section A will determine if the business qualifies for the survey. If the business qualifies for the survey after completing Section A, complete sections B, C, D, E and F for all businesses in the survey. If the business is not still operating, complete Section G for closed businesses.

### Objectives:

The purpose of this survey is to obtain information about small enterprises in Honduras and their impact on the economy. A primary measure of impact will be the jobs created by these small enterprises. The survey will also gather information about the problems experienced by small enterprises. The survey is focused on the smallest and newest enterprises and the problems they face. As a result, the survey is only for enterprises which were started after January 1, 1988 and which were started with no more than one employee in addition to the owner. The survey will include enterprises that are still operating and enterprises that have been closed.

### A. Qualification Data:

1. Have you ever owned a business? Yes / No

2a. Did you start a business between January 1, 1988 and December 31, 1990? Yes/No

2b. If yes to Question 2a, when did you start this business? Month \_\_\_\_\_ Year \_\_\_\_\_

Note A: If the answer to Question 2a is no, the business does not qualify for the survey. We are only interested in businesses that were started after January 1, 1988 and before December 31, 1990.

3. Is the business identified in Question 2 still operating? Yes / No

4a. Did you have any paid employees when you started this business? Yes / No

4b. If yes to Question 4a, how many paid employees did you have when you started this business? \_\_\_\_\_

Note B: If the answer to Question 4b is more than one paid employee at the start of the business, it does not qualify for the survey.

Conclusion: Please check here \_\_\_\_\_ if the business qualifies for the survey and complete the survey. All questions relate to the business identified in Question 2.



B. Proprietor Data

- 5a. Name of Proprietor: \_\_\_\_\_  
b. Business Name: \_\_\_\_\_  
c. Business Address: \_\_\_\_\_  
d. City/Town: \_\_\_\_\_

6. Gender:     Male / Female

7. Date of Birth: \_\_\_\_\_

8. Education Level: \_\_\_\_\_

Indicate highest level. Codes: 1) No schooling 2) Attended primary school-not completed  
3) Completed primary school 4) Attended secondary school-not completed  
5) Completed secondary 6) Attended university-not completed 7) Completed university 8) Other \_\_\_\_\_

9. Religion: \_\_\_\_\_  
Codes: 1) Catholic 2) Evangelical 3) None 4) Other \_\_\_\_\_

10. What did you do before starting this business? \_\_\_\_\_  
Codes: 1) Owned another business 2) Employee in another business 3) Unemployed  
4) Student %) Other \_\_\_\_\_

11. What was your average monthly income prior to starting this business? \_\_\_\_\_

12. For how many years were you employed in this type of business or industry before you started this business? \_\_\_\_\_

- 13a. Are you paid employees of another business that you do not own? Yes / No  
b. Do you own another business besides the one identified in Question 2? Yes / No  
c. If yes to 13b, how many other businesses do you own? \_\_\_\_\_

- 14 a. Have you ever had any training for your business activities? Yes / No  
b. If yes to 14a,

Source of Training	Type or Topic	Amount of Time
_____	_____	_____
_____	_____	_____
_____	_____	_____

C. Primary Business Data

15. Type of Business:\_\_\_\_\_

16. Primary Business Code: \_\_\_\_\_

Codes: 1) Clothing 2) Carpentry 3) Metals 4) Baking 5) Mechanics 6) Shoes

7) Blocks and Tiles 8) Pottery 9) vendor 10) Agriculture 11) Services

12) Other\_\_\_\_\_

17a. Does your business have a high and a low season? Yes / No

b. If yes, when are these seasons and how much do you operate this business during these seasons?

	Months	Hours / Day
High Season	_____	_____
Low Season	_____	_____
Normal Season	_____	_____

d. If no, how many hours per day do you usually operate this business? \_\_\_\_\_

18. What was the principal source of money used to start this business? \_\_\_\_\_

Codes: 1) Used no money 2) Gifts 3) Loans from family of friends

4) Formal credit institutions 5) Moneylender 6) Your own savings

7) Other (please specify) \_\_\_\_\_

19a. Have you ever received loans for this business? Yes / No

b. If yes to Question 19a,

Sources	Dates	Amounts	Used for
_____	_____	_____	_____
_____	_____	_____	_____

C. Employment Data (As of the survey date if the business is still operating. As of the closing date if the business is closed.)

20. How many hours per week do you usually work in this business? \_\_\_\_\_

21. Do you usually have employees working in this business? Yes / No

22. If yes to Question 21, please complete the following table.

Employee	Type-code	M/F	Date Hired	Average Hours/ Week	Average Wages/ Week	When hired 1. Employed 2. Unemployed	If employed when hired, old wage
----------	-----------	-----	------------	---------------------------	---------------------------	--	--

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.
- 11.
- 12.
- 13.
- 14.
- 15.
- 16.

Codes:

- 1. FT Paid Non-Family
  - 2. FT Paid Family
  - 3. FT Unpaid Family
  - 4. FT Apprentice
  - 5. FT Seasonal
  - 6. FT Unpaid Non-Family
- 7. PT Paid Non-Family
  - 8. PT Paid Family
  - 9. PT Unpaid Family
  - 10. PT Apprentice
  - 11. PT Seasonal
  - 12. PT Unpaid Non-Family

E. Other Questions

23. Who are your major competitors? \_\_\_\_\_

Codes: 1) None 2) Small Firms Nearby 3) Large Firms Nearby

4) Firms elsewhere 5) Public Enterprises 6) Other\_\_\_\_\_

24a. Have you ever experienced problems or barriers to the growth of this business?

Yes / No

b. If yes to Question 24 a, list two major barriers or problems at the following times:

Now: First \_\_\_\_\_

Second\_\_\_\_\_

When you started this business:

First\_\_\_\_\_

Second\_\_\_\_\_

Codes: 1) Lack of working capital 2) Problems with location of facilities

3) Lack of market knowledge 4) Problems with raw materials 5) Problems with production quality 6) Economy-recession 7) Economic situation-inflation

8) Problems with employees 9) Transportation problems 10) Lack of equipment

11) Other\_\_\_\_\_

25. In your opinion, how have the following changes since you started this business?

a. The overall demand for products like yours? \_\_\_\_\_

b. The number of businesses like yours in your locality? \_\_\_\_\_

c. The volume of your own business? \_\_\_\_\_

Codes: 1) Much increase 2) Little increase 3) No change 4) Little decrease

5) Much decrease 6) Do not know

26a If you could overcome some of the growth barriers and your business was able to grow, would you add employees? Yes / No

b. If yes to 26a, what would be the ideal number of full-time paid employees? \_\_\_\_\_

F. Financial Data

27. Business Records

- a. Is there a formal set of books for the business-general ledger? Yes / No
- b. If no to 27a, are there records for the following:
  - 1) Sales- Y/ N      2) Expenses- Y/N      3) Inventory- Y/N
  - 4) Payroll- Y/N      5) Purchases- Y/N
- c. Are any records kept on computer? Y/N

28. Working Capital

- a. Does the business have any of the following: 1) Accounts Receivable- Y/N  
2) Accounts Payable- Y/N      3) Inventory- Y/N
- b. If yes to any items in 28a, do they have detailed records?
  - 1) Accounts Receivable- Y/N      2) Accounts Payable- Y/N      3) Inventory-Y/N

29. Management Information-Does the owner have management information available to determine the following:

- 1. Monthly sales data? Yes / No
- 2. Monthly profit or loss? Yes / No
- 3. Payments for owner salary? Yes / No
- 4. Sales comparison to prior year? Yes / No

30. Cash management

- a. Does the business have any accounts with banks? Yes / No
- b. Does the owner keep business and personal funds separate? Yes / No

31. Legal

- a. Is the business incorporated? Yes / No
- b. Is the business registered? Yes / No
- c. Does the business pay any social taxes? Yes / No

32. Financial Data: When answering each question below, indicate whether it is

A) Actual data   E) Estimated data   N) No data

(If the business is still operating, the data should be for 1992. If the business is not operating, the data should be provided for the last year in which the business was operating.)

A / E / N

- a. Average monthly sales? \_\_\_\_\_
- b. Purchases as a % of sales? \_\_\_\_\_
- c. Average monthly profit (loss)? \_\_\_\_\_
- d. Average monthly salary to owner? \_\_\_\_\_
- e. Ratio of income in ( d) to total family income? \_\_\_\_\_

G. Closed Business Data

33. When did you close this business? \_\_\_\_\_ ( Month/Year)

34. List the three main reasons why this business was closed?

First\_\_\_\_\_

Second\_\_\_\_\_

Third\_\_\_\_\_

35. What have you done since this business was closed?\_\_\_\_\_

Codes: 1) Started another business 2) Employee in another business

3) Unemployed 4) Retired 5) Other\_\_\_\_\_

Signature\_\_\_\_\_ ( Interviewee)

Signature\_\_\_\_\_ ( Interviewer)

File Review Data for IDH Clients in Survey

Survey Number\_\_\_\_\_

Number of Loans Received \_\_\_\_\_

File Data For Each Loan	1	2	3
-------------------------	---	---	---

Date of Loan			
Amount of Loan			
Term of Loan			
Interest Rate			
Fees			
Guarantees? Y/N			
Collateral? What			
Current Status-codes below			
Employees at time of loan			
Employment created-per file			

Loan Status Codes

- 1) Paid in full
- 2) Payment current on amount outstanding
- 3) Payments in arrears on outstanding portion-should be collectible from business
- 4) Payments in arrears on outstanding portion-collect via legal process
- 5) Payments in arrears-not collectible

## Annex II: Statistical Analyses- t-tests of Differences in Group Means and Group Proportions and Other Statistical Tests

All T-tests do not assume equal variances between groups and therefore use the Satterthwaite test statistic. A pooled variance test-statistic in all cases gave very comparable p-values.

### T-test for Mean Differences The TTEST Procedure

Variable	IDH	Mean	Std Dev	DF	t Value	Pr >  t
PriorIncome	0	5.2174	4.7745			
PriorIncome	1	6.7174	7.2714			
PriorIncome	Diff (1-2)	-1.5	6.151	77.7	-1.17	0.2458
AgeC	0	35.717	10.751			
AgeC	1	33.63	9.8237			
AgeC	Diff (1-2)	2.087	10.298	89.3	0.97	0.3337
Education	0	9.087	4.555			
Education	1	10.913	4.0157			
Education	Diff (1-2)	-1.826	4.2938	88.6	-2.04	0.0444
YearsExperience	0	6.6957	6.3486			
YearsExperience	1	5.2826	5.624			
YearsExperience	Diff (1-2)	1.413	5.9973	88.7	1.13	0.2615
Employees	0	0.6957	0.7563			
Employees	1	0.587	0.8049			
Employees	Diff (1-2)	0.1087	0.781	89.7	0.67	0.5062
FinalEmployees	0	0.5217	0.7223			
FinalEmployees	1	0.5435	0.7805			
FinalEmployees	Diff (1-2)	-0.022	0.752	89.5	-0.14	0.8900
PlannedEmployees	0	2.0435	4.2214			
PlannedEmployees	1	2.7174	2.094			
PlannedEmployees	Diff (1-2)	-0.674	3.3321	65.9	-0.97	0.3356
Revenue	0	38.891	48.319			
Revenue	1	48.609	36.497			
Revenue	Diff (1-2)	-9.717	42.818	83.7	-1.09	0.2795
ValueAdded	0	15.13	18.624			
ValueAdded	1	22.609	16.297			
ValueAdded	Diff (1-2)	-7.478	17.499	88.4	-2.05	0.0434
HoursPerWeek	0	70	22.371			
HoursPerWeek	1	62.37	16.623			
HoursPerWeek	Diff (1-2)	7.6304	19.708	83.1	1.86	0.0669
VAPerHour	0	0.2426	0.3142			
VAPerHour	1	0.4013	0.3455			
VAPerHour	Diff (1-2)	-0.159	0.3303	89.2	-2.30	0.0235
EmployeeChange	0	-0.174	0.6767			
EmployeeChange	1	-0.043	0.6978			
EmployeeChange	Diff (1-2)	-0.13	0.6874	89.9	-0.91	0.3652



T-tests for Proportions  
The FREQ Procedure

OwnedaBusiness			
	0	1	
C	36	10	21.74%
I	38	8	17.39%

Statistic	DF	Value	Prob
Chi-Square	1	0.2763	0.5992

Sex (Male)			
	0	1	
C	26	20	43.48%
I	27	19	41.30%

Statistic	DF	Value	Prob
Chi-Square	1	0.0445	0.8329

T-test for Percentage Income Increase Above vs. Below Poverty Line  
The TTEST Procedure

Variable	Poverty	Mean	Std Dev	DF	t Value	Pr >  t
PercentIncrease	0	2.604	3.238			
PercentIncrease	1	17.333	15.022			
PercentIncrease	Diff (1-2)	-14.729	8.317	12.0	-3.503	0.0044

Correlation Between Loan Size and Prior Income  
The CORR Procedure

Pearson Correlation Coefficients, N = 46	Prob >  r  under H0: Rho=0
0.00264	0.9861

## Annex III: Statistical Analyses- Multiple Linear Regression Analyses

## Backwards Selection Model 1

The REG Procedure  
Dependent Variable: ValueAdded

## Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	13	5409.70427	416.13110	1.38	0.1858
Error	78	23437	300.47090		
Corrected Total	91	28846			

Root MSE	17.33410	R-Square	0.1875
Dependent Mean	18.86957	Adj R-Sq	0.0521
Coeff Var	91.86272		

## Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr >  t
Intercept	1	12.04334	12.02786	1.00	0.3198
IDH	1	3.87294	3.95043	0.98	0.3299
Employees	1	3.16129	2.74966	1.15	0.2538
Sex	1	1.44124	3.91426	0.37	0.7137
Age30	1	0.44374	5.85496	0.08	0.9398
Age3045	1	1.89489	5.18032	0.37	0.7155
Education	1	0.04627	0.53871	0.09	0.9318
Catholic	1	8.27469	6.53370	1.27	0.2091
Protestant	1	9.23252	6.73103	1.37	0.1741
OwnedaBusiness	1	-9.37250	5.51260	-1.70	0.0931
PriorIncome	1	0.64453	0.35599	1.81	0.0741
YearsExperience	1	-0.53823	0.33648	-1.60	0.1137
Manufacturing	1	2.48190	5.08372	0.49	0.6268
HoursPerWeek	1	-0.09533	0.09586	-0.99	0.3231

## The GLM Procedure

Source	DF	Type III SS	Mean Square	F Value	Pr > F
Age	2	57.9063239	28.9531620	0.10	0.9082
Religion	2	586.9569561	293.4784781	0.98	0.3811

Backwards Selection Model 2: Education Eliminated

The REG Procedure  
Dependent Variable: ValueAdded

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	12	5407.48801	450.62400	1.52	0.1350
Error	79	23439	296.69553		
Corrected Total	91	28846			

Root MSE	17.22485	R-Square	0.1875
Dependent Mean	18.86957	Adj R-Sq	0.0640
Coeff Var	91.28378		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr >  t
Intercept	1	12.43106	11.07820	1.12	0.2652
IDH	1	3.89805	3.91477	1.00	0.3224
Employees	1	3.15445	2.73119	1.15	0.2516
Sex	1	1.40519	3.86716	0.36	0.7173
Age30	1	0.54786	5.69198	0.10	0.9236
Age3045	1	1.96295	5.08709	0.39	0.7006
Catholic	1	8.35312	6.42879	1.30	0.1976
Protestant	1	9.27061	6.67407	1.39	0.1687
OwnedaBusiness	1	-9.58257	4.90909	-1.95	0.0545
PriorIncome	1	0.65623	0.32681	2.01	0.0481
YearsExperience	1	-0.53797	0.33434	-1.61	0.1116
Manufacturing	1	2.42851	5.01377	0.48	0.6295
HoursPerWeek	1	-0.09619	0.09474	-1.02	0.3130

The GLM Procedure

Source	DF	Type III SS	Mean Square	F Value	Pr > F
Age	2	59.338226	29.669113	0.10	0.9050
Religion	2	599.092260	299.546130	1.01	0.3690

## Backwards Selection Model 3: Age Eliminated

The REG Procedure  
Dependent Variable: ValueAdded

## Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	10	5348.14979	534.81498	1.84	0.0658
Error	81	23498	290.10228		
Corrected Total	91	28846			

Root MSE	17.03239	R-Square	0.1854
Dependent Mean	18.86957	Adj R-Sq	0.0848
Coeff Var	90.26381		

## Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr >  t
Intercept	1	13.67645	9.65854	1.42	0.1606
IDH	1	3.93818	3.84789	1.02	0.3091
Employees	1	3.08070	2.69425	1.14	0.2562
Sex	1	1.24314	3.80266	0.33	0.7446
Catholic	1	8.01832	6.31342	1.27	0.2077
Protestant	1	8.99011	6.53580	1.38	0.1728
OwnedaBusiness	1	-9.93001	4.65812	-2.13	0.0361
PriorIncome	1	0.67688	0.31963	2.12	0.0373
YearsExperience	1	-0.53767	0.31759	-1.69	0.0943
Manufacturing	1	2.34665	4.94683	0.47	0.6365
HoursPerWeek	1	-0.09340	0.09329	-1.00	0.3197

## The GLM Procedure

Source	DF	Type III SS	Mean Square	F Value	Pr > F
Religion	2	569.416695	284.708348	0.98	0.3792

## Backwards Selection Model 4: Sex Eliminated

The REG Procedure  
Dependent Variable: ValueAdded

## Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	9	5317.14576	590.79397	2.06	0.0428
Error	82	23529	286.94255		
Corrected Total	91	28846			

Root MSE	16.93938	R-Square	0.1843
Dependent Mean	18.86957	Adj R-Sq	0.0948
Coeff Var	89.77090		

## Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr >  t
Intercept	1	14.20694	9.46926	1.50	0.1374
IDH	1	3.87791	3.82248	1.01	0.3133
Employees	1	3.27980	2.61017	1.26	0.2125
Catholic	1	8.09789	6.27428	1.29	0.2005
Protestant	1	8.94915	6.49891	1.38	0.1723
OwnedaBusiness	1	-9.96217	4.63165	-2.15	0.0344
PriorIncome	1	0.68468	0.31699	2.16	0.0337
YearsExperience	1	-0.53986	0.31579	-1.71	0.0911
Manufacturing	1	2.45831	4.90808	0.50	0.6178
HoursPerWeek	1	-0.09608	0.09242	-1.04	0.3016

## The GLM Procedure

Source	DF	Type III SS	Mean Square	F Value	Pr > F
Religion	2	569.341792	284.670896	0.99	0.3752

## Backwards Selection Model 5: Manufacturing Eliminated

The REG Procedure  
Dependent Variable: ValueAdded

## Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	8	5245.15992	655.64499	2.31	0.0277
Error	83	23601	284.35271		
Corrected Total	91	28846			

Root MSE	16.86276	R-Square	0.1818
Dependent Mean	18.86957	Adj R-Sq	0.1030
Coeff Var	89.36486		

## Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr >  t
Intercept	1	14.88204	9.33045	1.59	0.1145
IDH	1	3.99372	3.79822	1.05	0.2961
Employees	1	3.82696	2.35986	1.62	0.1087
Catholic	1	7.64085	6.17950	1.24	0.2198
Protestant	1	8.13201	6.26236	1.30	0.1977
OwnedaBusiness	1	-10.05859	4.60671	-2.18	0.0318
PriorIncome	1	0.67499	0.31497	2.14	0.0350
YearsExperience	1	-0.53762	0.31433	-1.71	0.0909
HoursPerWeek	1	-0.09520	0.09199	-1.03	0.3037

## The GLM Procedure

Source	DF	Type III SS	Mean Square	F Value	Pr > F
Religion	2	507.920844	253.960422	0.89	0.4133

# Backwards Selection Model 6: Religion Eliminated

The REG Procedure  
Dependent Variable: ValueAdded

## Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	6	4737.23907	789.53985	2.78	0.0161
Error	85	24109	283.63760		
Corrected Total	91	28846			

Root MSE	16.84154	R-Square	0.1642
Dependent Mean	18.86957	Adj R-Sq	0.1052
Coeff Var	89.25242		

## Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr >  t
Intercept	1	22.20314	7.54362	2.94	0.0042
IDH	1	5.00590	3.67659	1.36	0.1769
Employees	1	3.39972	2.32475	1.46	0.1473
OwnedaBusiness	1	-9.66092	4.58249	-2.11	0.0380
PriorIncome	1	0.62054	0.31161	1.99	0.0497
YearsExperience	1	-0.49518	0.31216	-1.59	0.1164
HoursPerWeek	1	-0.10371	0.09125	-1.14	0.2589

## Backwards Selection Model 7: HoursPerWeek Eliminated

The REG Procedure  
Dependent Variable: ValueAdded

## Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	5	4370.87867	874.17573	3.07	0.0134
Error	86	24476	284.59949		
Corrected Total	91	28846			

Root MSE	16.87008	R-Square	0.1515
Dependent Mean	18.86957	Adj R-Sq	0.1022
Coeff Var	89.40363		

## Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr >  t
Intercept	1	14.68678	3.63480	4.04	0.0001
IDH	1	5.80347	3.61511	1.61	0.1121
Employees	1	3.49681	2.32712	1.50	0.1366
OwnedaBusiness	1	-10.21714	4.56400	-2.24	0.0278
PriorIncome	1	0.63807	0.31176	2.05	0.0437
YearsExperience	1	-0.46251	0.31136	-1.49	0.1411



# Backwards Selection Model 8: Years Experience Eliminated

The REG Procedure  
Dependent Variable: ValueAdded

## Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	4	3742.88856	935.72214	3.24	0.0157
Error	87	25104	288.54651		
Corrected Total	91	28846			

Root MSE	16.98666	R-Square	0.1298
Dependent Mean	18.86957	Adj R-Sq	0.0897
Coeff Var	90.02145		

## Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr >  t
Intercept	1	12.27399	3.27416	3.75	0.0003
IDH	1	6.67555	3.59177	1.86	0.0665
Employees	1	3.46663	2.34311	1.48	0.1426
OwnedaBusiness	1	-9.92298	4.59121	-2.16	0.0334
PriorIncome	1	0.49873	0.29937	1.67	0.0993

# Regression with IDH Excluded

The REG Procedure  
Dependent Variable: ValueAdded

## Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	2746.16981	915.38994	3.09	0.0313
Error	88	26100	296.59392		
Corrected Total	91	28846			

Root MSE	17.22190	R-Square	0.0952
Dependent Mean	18.86957	Adj R-Sq	0.0644
Coeff Var	91.26815		

## Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr >  t
Intercept	1	15.47243	2.82400	5.48	<.0001
OwnedaBusiness	1	-10.50025	4.64413	-2.26	0.0262
Employees	1	3.11338	2.36773	1.31	0.1920
PriorIncome	1	0.57896	0.30034	1.93	0.0571

# Regression with Owned a Business Excluded

The REG Procedure  
Dependent Variable: ValueAdded

## Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	2395.02796	798.34265	2.66	0.0533
Error	88	26451	300.58417		
Corrected Total	91	28846			

Root MSE	17.33736	R-Square	0.0830
Dependent Mean	18.86957	Adj R-Sq	0.0518
Coeff Var	91.88004		

## Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr >  t
Intercept	1	11.13575	3.29824	3.38	0.0011
IDH	1	7.20072	3.65753	1.97	0.0521
Employees	1	2.82132	2.37199	1.19	0.2375
PriorIncome	1	0.38947	0.30116	1.29	0.1993

# Regression with Employees Excluded

The REG Procedure  
Dependent Variable: ValueAdded

## Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	3111.28413	1037.09471	3.55	0.0177
Error	88	25735	292.44489		
Corrected Total	91	28846			

Root MSE	17.10102	R-Square	0.1079
Dependent Mean	18.86957	Adj R-Sq	0.0774
Coeff Var	90.62753		

## Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr >  t
Intercept	1	14.17782	3.03096	4.68	<.0001
IDH	1	6.24450	3.60404	1.73	0.0867
OwnedaBusiness	1	-9.05740	4.58444	-1.98	0.0513
PriorIncome	1	0.55998	0.29849	1.88	0.0640

# Regression with Prior Income Excluded

The REG Procedure  
Dependent Variable: ValueAdded

## Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	2942.07046	980.69015	3.33	0.0231
Error	88	25904	294.36778		
Corrected Total	91	28846			

Root MSE	17.15715	R-Square	0.1020
Dependent Mean	18.86957	Adj R-Sq	0.0714
Coeff Var	90.92499		

## Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr >  t
Intercept	1	14.21974	3.08946	4.60	<.0001
IDH	1	7.53846	3.58990	2.10	0.0386
OwnedaBusiness	1	-8.63146	4.57071	-1.89	0.0623
Employees	1	4.00645	2.34389	1.71	0.0909

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